Database Management System

Bus Booking System

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Introduction

The Bus Booking System is a web application that manages the bus booking or ticketing processes. It has three types of users. First is the admin who can manage the list of buses, locations, schedules and list of booked schedules. Customers can simply go to the site and find his/her desired schedule and location and can book his/her ticket. Employees can see the schedule list , booked list and bus list.

Technology used

Page Layout has been task has been designed in HTML

CSS has been used for all for all the designing part

All the validation part has been done

using Javascript

All the forms and buttons

has been designed

We used Xampp server to

run our project

using bootstrap

Php has been used as   It has been used

 a backend language   as a database.

Product Description

On our website, customers can book tickets by seeing the schedule. We also implemented some facilities for employees (bus driver,conductor) to view the schedule and see the booked ticket seat.Then we have an admin(ticket incharge) as a user who can edit various important features like add bus,add schedule etc.

The users of Bus Management System
1) **Ticket Incharge:-**Main ticket incharge can access all information and can update or delete bus schedule, location,Bus information.

2) **Employee:-** Employee can see the bus schedule and bus information.

3) **Customer:-** Customer can book the bus ticket by taking into consideration the present schedule and availability of seats.

Requirements

1) You need to download the xampp server on your system and make sure that the ports of the apache server and mysql of xampp server are running properly .

2) Any one internet browser (Google chrome, Mozilla Firefox etc.).

3) Minimum ram requirement is 128 MB.

4) The xampp server version should be v3.2.4.

Features

The Homepage is for all types of users and from there any user,non-user can see the current schedule and from home screen user of any type can move to their respective login screen and log into the portal using their credentials

Admin Side

- Home Page - This page is the welcoming page of the administrator after logging into the system.
- Schedule Page - This is the page where all bus route schedules are listed. At this page, admin can create, update and delete and bus route schedule for booking.
- Booked Page - The page where the passengers booked schedules are listed. Admin can update the details and payment status of the passenger schedule.
- Maintenance -
  - Bus List Page - This is the page where buses are listed and also where admin users can create, update and delete the buses.
  - Location - This page helps to organize the bus company location route. At this page, admin can create, update and delete the list of locations.
- Users Page - The page where admin sees users of the system and can be managed.
- Logout - this button admin Logout from Bus Management System

Employee Side

- Home Page - The welcoming page for the Employee when he/she browses the website.
- Change Password - The page where employees can change username and Password.
- Booked List - The page where employees can see Booked ticket list.
- Schedule Page - The page where Customers can see all bus company route schedules.
- Logout - this button employee Logout from Bus Management System.

Customer Side

- Home Page - The welcoming page for the Customer when he/she browses the website.
- Change Password - The page where Customer can change username and Password.
- Schedule Page - The page where Customers can see all bus company route schedules. On this page Customer can Book ticker.
- Logout - this button Customer Logout from Bus Management System

ER Diagram
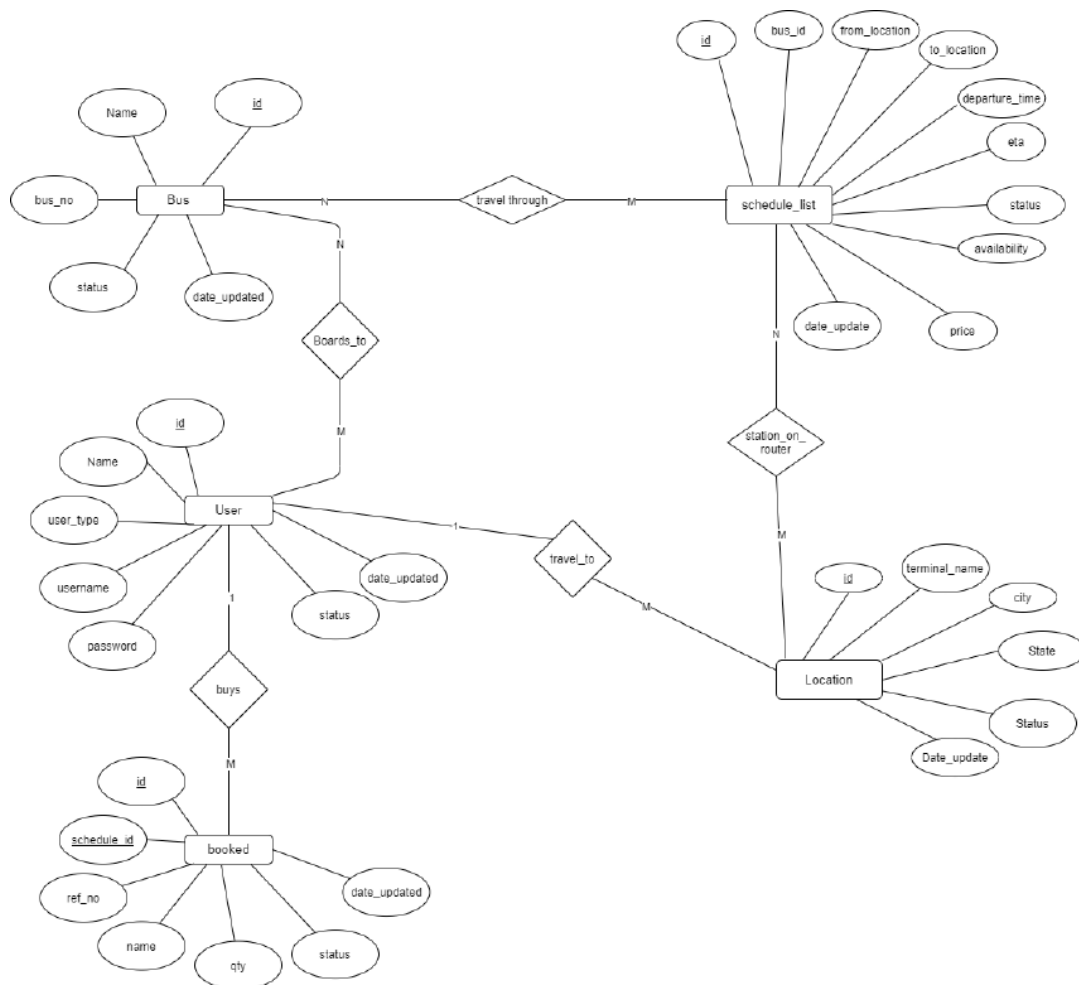
Project Setup

Steps to run our project:-

1) Unzip the zip and copy the full folder with the name "bus".
2) Now launch the xampp server and start apache server and mysql server.
3) Now go to the C: partition of your system and there in the xampp folder go to the htdocs folder and paste the folder "bus" there.
4) Now from server gui using the admin button in front of mysql go to the "localhost/phpmyadmin"
5) Then create a new database with the name "bus_booking" .
6) Click on the import feature of localhost and there click on browse option.
7) Go to the database folder of the folder bus and select the .sql file "bus_booking" and upload it to the website.
8) At the end of the webpage there is a "go", option click on it and your database is created in a few seconds.
9) Now open a new tab and type "localhost/bus" .
10) Our project is successfully set up on your system and is ready to use.

User id and password to enter into the portal

S. no.	Username	Password	User
1.	Rahul	123	Admin
2.	Nandini	123	Customer
3.	Pankaj	123	Employee

Implementation:-

Welcome page

When using xampp server we launch our project on any browser this screen appears as a home screen with options to login into the website and schedule of buses with one option to come back home .

Admin Login:-

This is the admin login screen for the login of admin using home button the user may move back to the home screen.
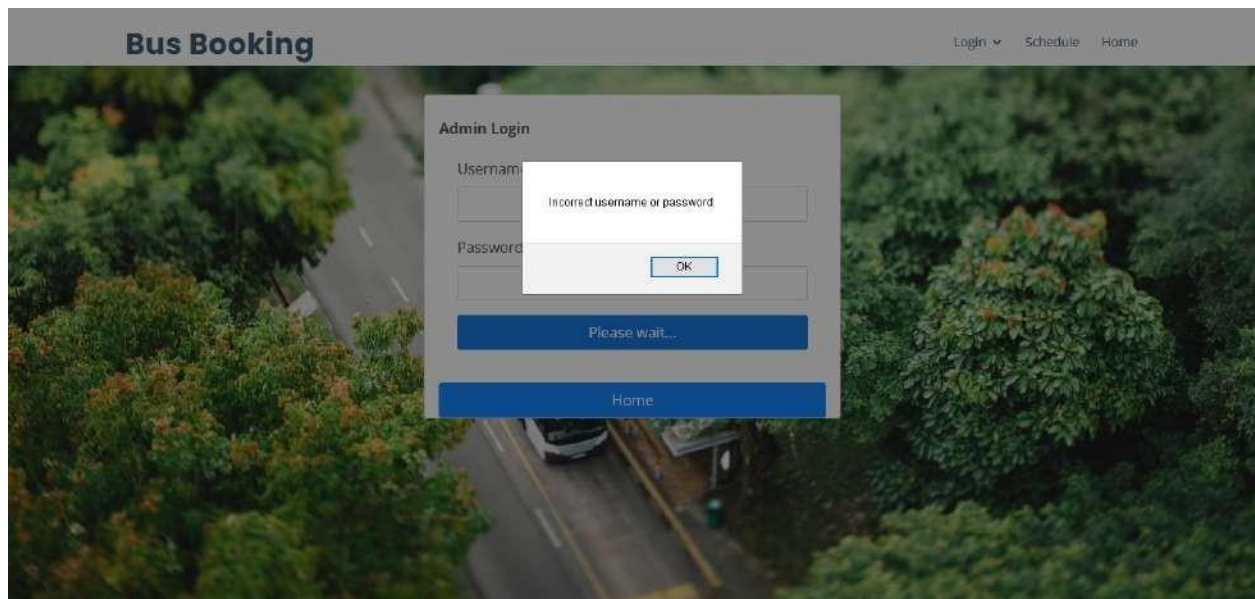
Bus Booking

Bus Booking

Admin Login

Username

Password

Login

Home

If the password or username is incorrect or login with any empty field then below popup will be displayed otherwise entered into the portal.

Employee Login:-

This is the Employee login screen for the login of Employee. Using the home button the user may move back to the home screen.
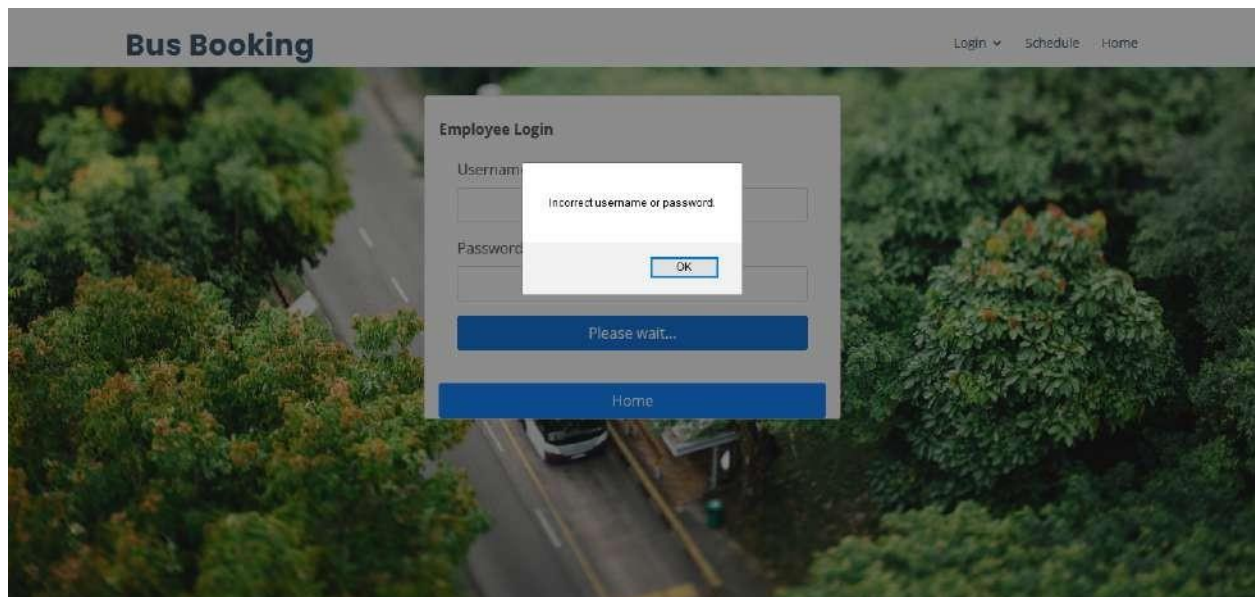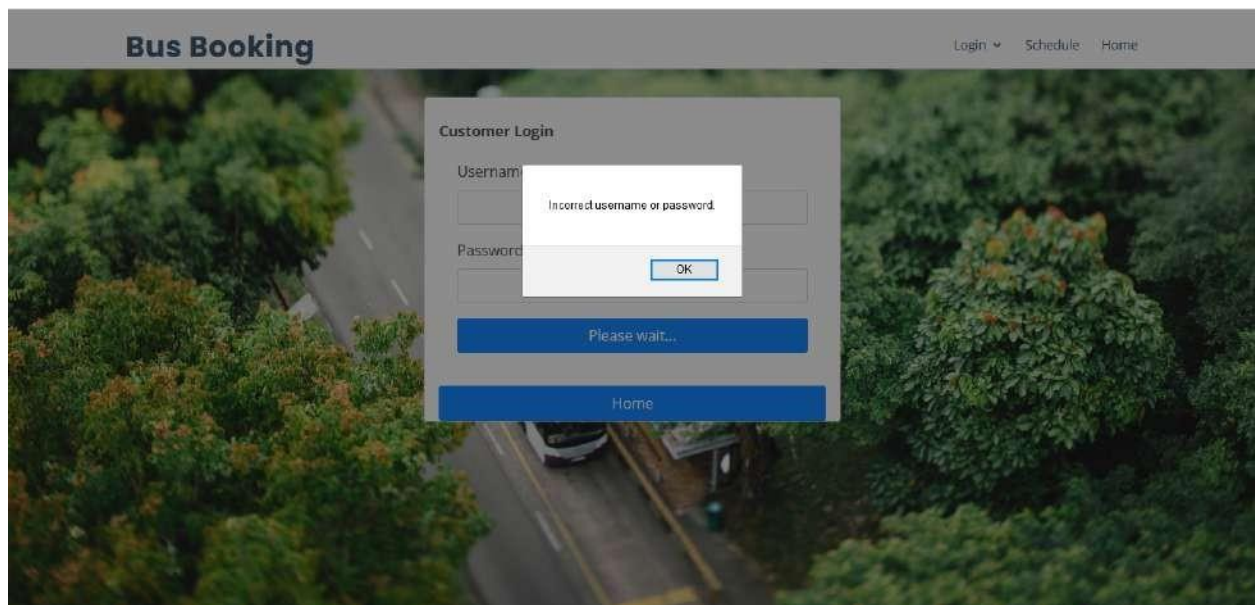
Bus Booking

Bus Booking

Employee Login

Username

Password

Login

Home

If the password or username is incorrect or login with any empty field then the below popup will be displayed otherwise entered into the portal.
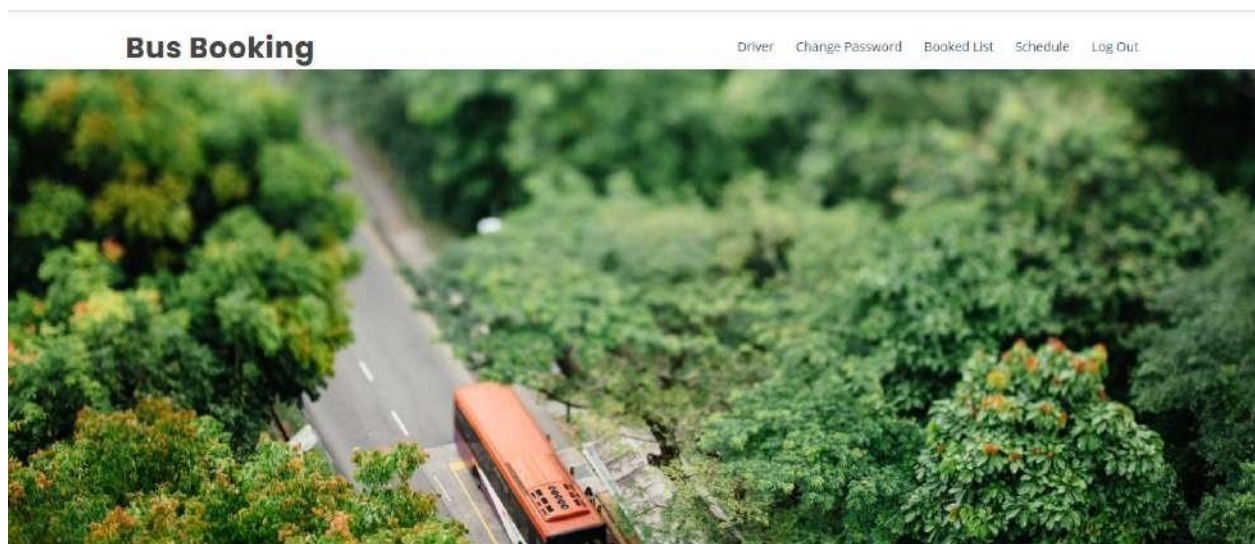
Customer Login:-

This is the Customer login screen for the login of Customer. Using the home button the user may move back to the home screen.

If the password or username is incorrect or login with empty any empty field then below popup will be displayed otherwise entered into the portal.

Schedule (on Home Page):-

This is the screen which shows the bus schedule if u are logged into the portal then u can book for tickets from here only.

Bus Booking   Login ⌄   Schedule   Home

Show 10 ⌄ entries   Search: [   ]

# ▲	Date	Bus	Location	Departure	ETA	Availability	Price
1	Apr 02, 2021	5001 | Economy	chandni chowk, new delhi, new delhi - marine drive , mumbai, Maharashtra	11:24 PM	Apr 03,2021 11:24 PM	50	500
2	May 01, 2021	5002 | Economy	marine drive , mumbai, Maharashtra - chandni chowk, new delhi, new delhi	11:49 PM	May 03,2021 11:49 PM	50	1700
3	May 10, 2021	5004 | luxury	marine drive , mumbai, Maharashtra - civil line, allahabad, u.p.	11:55 PM	May 11,2021 11:55 PM	50	400
4	May 12, 2021	5003 | deluxe	Marina Beach, Chennai, Tamil Nadu - Hawa Mahal, jaipur, Rajasthan	11:54 PM	May 14,2021 11:54 PM	70	2000
5	May 18, 2021	5005 | luxury	mp colony, bikaner, Rajasthan - Hawa Mahal, jaipur, Rajasthan	11:55 PM	May 20,2021 11:56 PM	76	500

Showing 1 to 5 of 5 entries   Previous   1   Next

Schedule (for admin purpose):-

Schedule List for admin. From here the admin can add new schedule to the database of schedule and also edit or delete the schedule depending on circumstances

Bus Booking   Home   Schedule   Booked List   Maintenance ⌄   Ticket Incharge ⌄

Add New +

Show 10 ⌄ entries   Search: [   ]

# ▲	Date	Bus	Location	Departure	ETA	Availability	Price	Action
1	Apr 02, 2021	5001 | Economy	chandni chowk, new delhi, new delhi - marine drive , mumbai, Maharashtra	11:24 PM	Apr 03,2021 11:24 PM	50	500	Edit Delete
2	May 01, 2021	5002 | Economy	marine drive , mumbai, Maharashtra - chandni chowk, new delhi, new delhi	11:49 PM	May 03,2021 11:49 PM	50	1700	Edit Delete
3	May 10, 2021	5004 | luxury	marine drive , mumbai, Maharashtra - civil line, allahabad, u.p.	11:55 PM	May 11,2021 11:55 PM	50	400	Edit Delete
4	May 18, 2021	5005 | luxury	mp colony, bikaner, Rajasthan - Hawa Mahal, jaipur, Rajasthan	11:55 PM	May 20,2021 11:56 PM	76	500	Edit Delete

Showing 1 to 4 of 4 entries   Previous   1   Next

Booked List:-

Here is the booked list of all the present booked tickets the admin can edit them according to their change in no. of seats or paid status.

Bus List (for Admin):-

In the Maintenance part of the admin side the book list whose screen snippet is mentioned above displays the no. of bus and data according to the database. The admin also add new bus information or can edit the existing bus records.

Bus Booking

Add New +

Show 10 ∨ entries   Search: [   ]

# ▲	Bus No.	Bus Name	Action
1	5001	Economy	Edit Delete
2	5002	Economy	Edit Delete
3	5003	deluxe	Edit Delete
4	5004	luxury	Edit Delete
5	5005	luxury	Edit Delete

Showing 1 to 5 of 5 entries   Previous 1 Next

Bus Booking
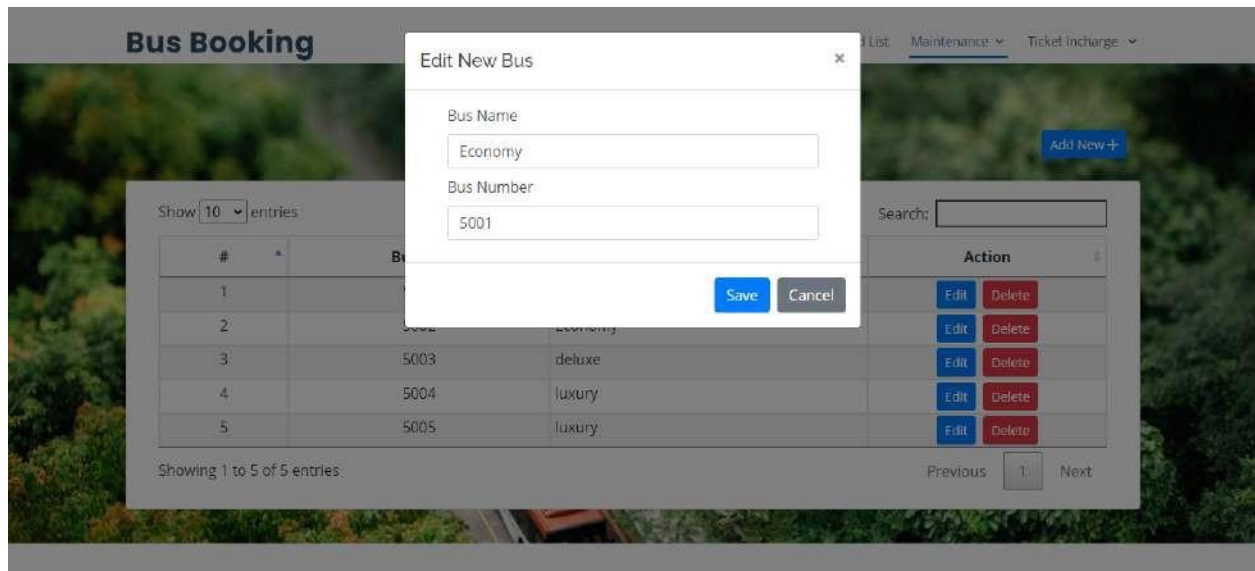
Add New Bus   ×

Bus Name

[   ]

Bus Number

[   ]

                                    Save   Cancel

Show 10 ∨ entries   Search: [   ]

# ▲	Bu		Action
1			Edit Delete
2	5002	Economy	Edit Delete
3	5003	deluxe	Edit Delete
4	5004	luxury	Edit Delete
5	5005	luxury	Edit Delete

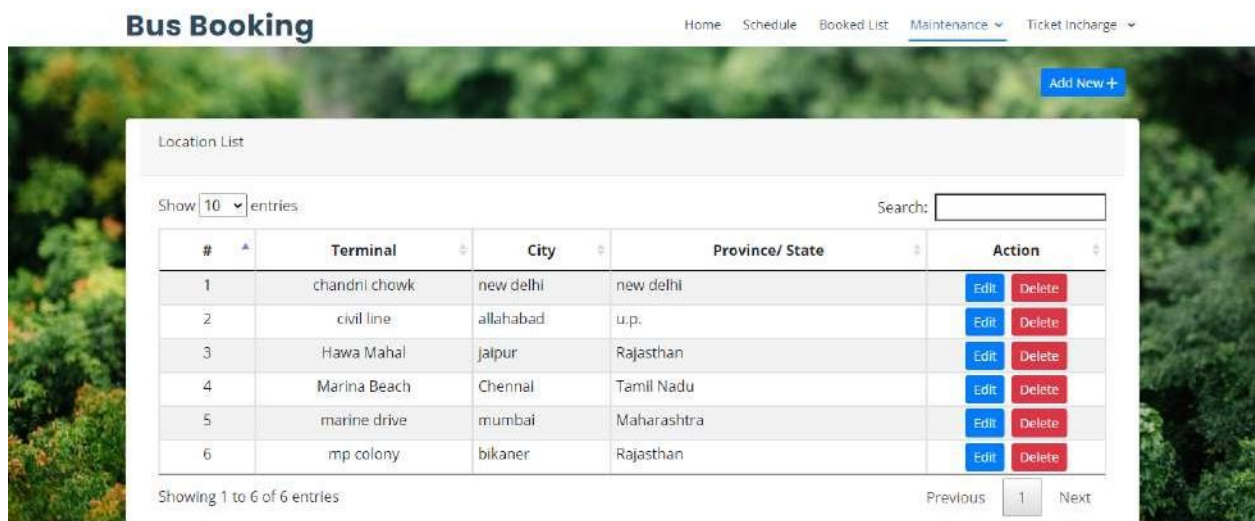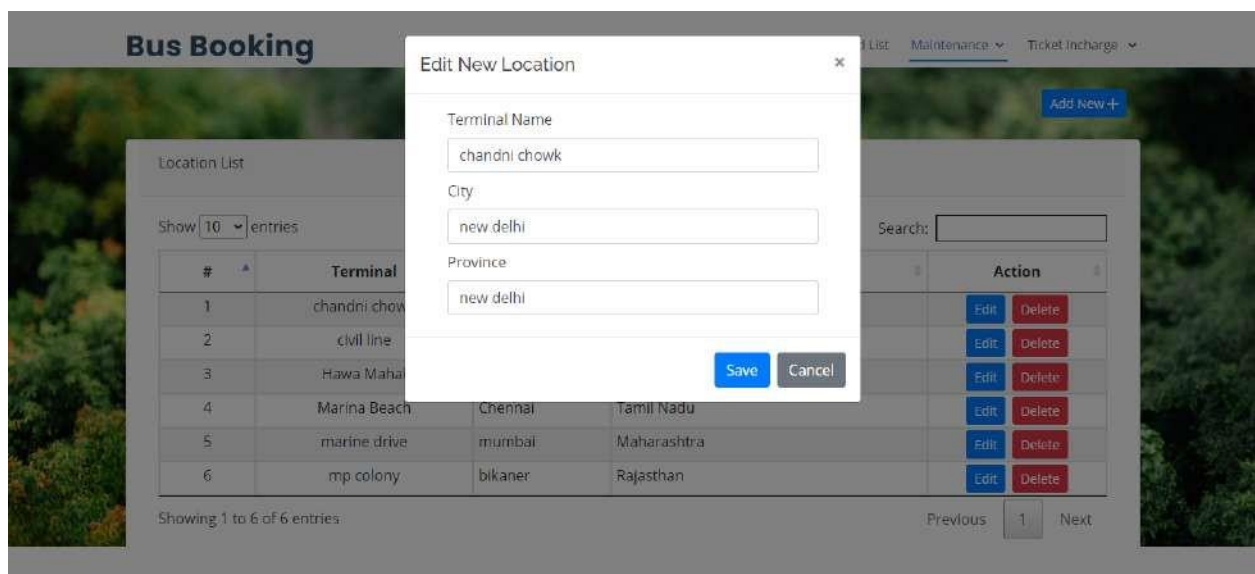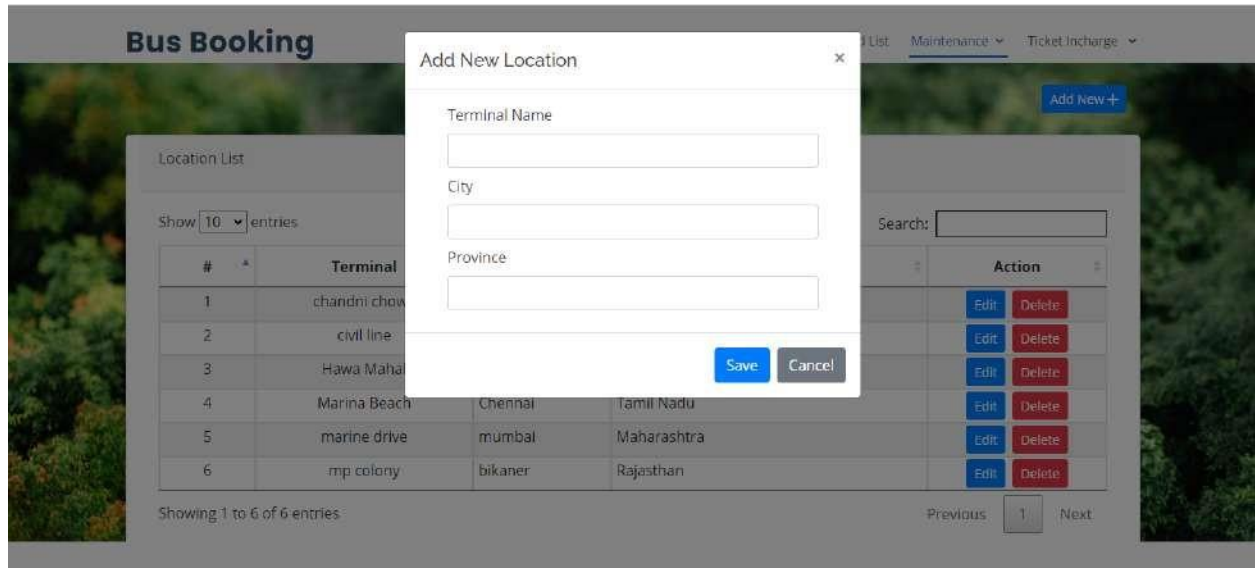Showing 1 to 5 of 5 entries   Previous 1 Next

Location List (for admin):-

In the Maintenance part of the admin side the location list whose screen snippet is mentioned above displays the no. of locations and data according to the database.The admin also adds new location information or can edit the existing bus location.

User list (only can be view by admin):-

Here is the screen for the no. of users with their designation.The admin can add the new user and add,edit or delete the existing user according to circumstances.

Bus Booking

Home   Schedule   Booked List   Maintenance ▾   Ticket Incharge ▾

Add New +

Show 10 ▾ entries   Search:

#	Designation	User Name	Action
1	Conductor	Pankaj	Edit Delete
2	Driver	Rohit	Edit Delete
3	Driver	Aditya	Edit Delete
4	Passenger	Khushi	Edit Delete
5	Passenger	Nandini	Edit Delete
6	Passenger	pass1	Edit Delete
7	Passenger	pass2	Edit Delete
8	Ticket Incharge	admin	Edit Delete
9	Ticket Incharge	Rahul	Edit Delete

Showing 1 to 9 of 9 entries   Previous 1 Next

Bus Booking

ll List   Maintenance ▾   Ticket Incharge ▾

Add New +

Edit New User   ×

Designation

Conductor

User Name

Pankaj

Password

•••

Save   Cancel

Show 10 ▾ entries   Search:

#	D		Action
1	C		Edit Delete
2			Edit Delete
3			Edit Delete
4	P		Edit Delete
5	P		Edit Delete
6	P		Edit Delete
7	Passenger	pass2	Edit Delete
8	Ticket Incharge	admin	Edit Delete
9	Ticket Incharge	Rahul	Edit Delete

Showing 1 to 9 of 9 entries   Previous 1 Next
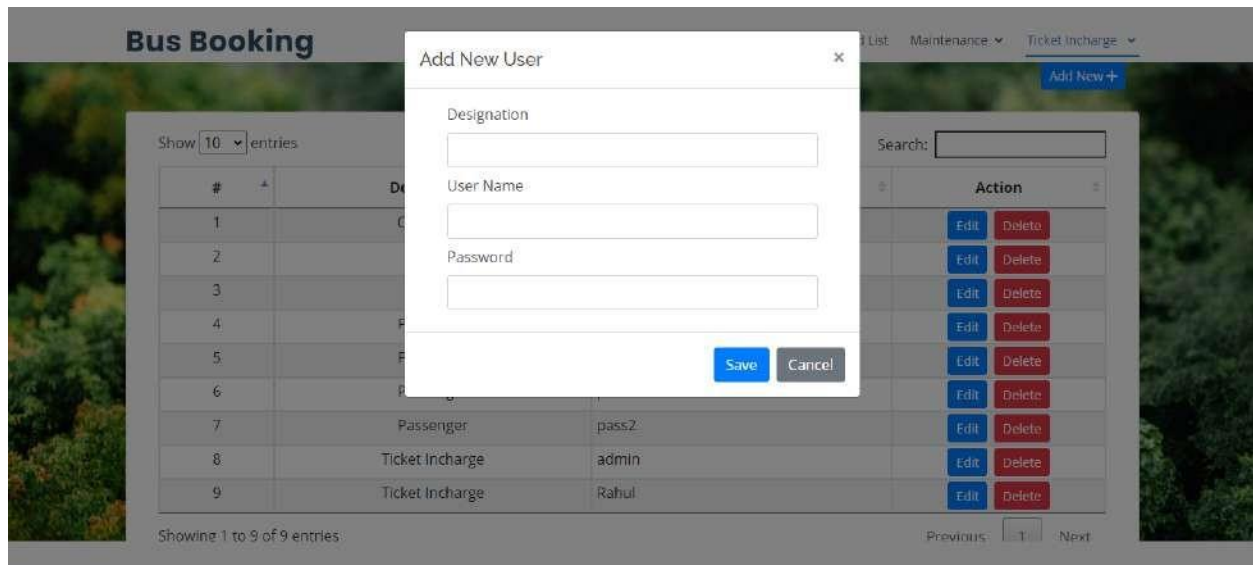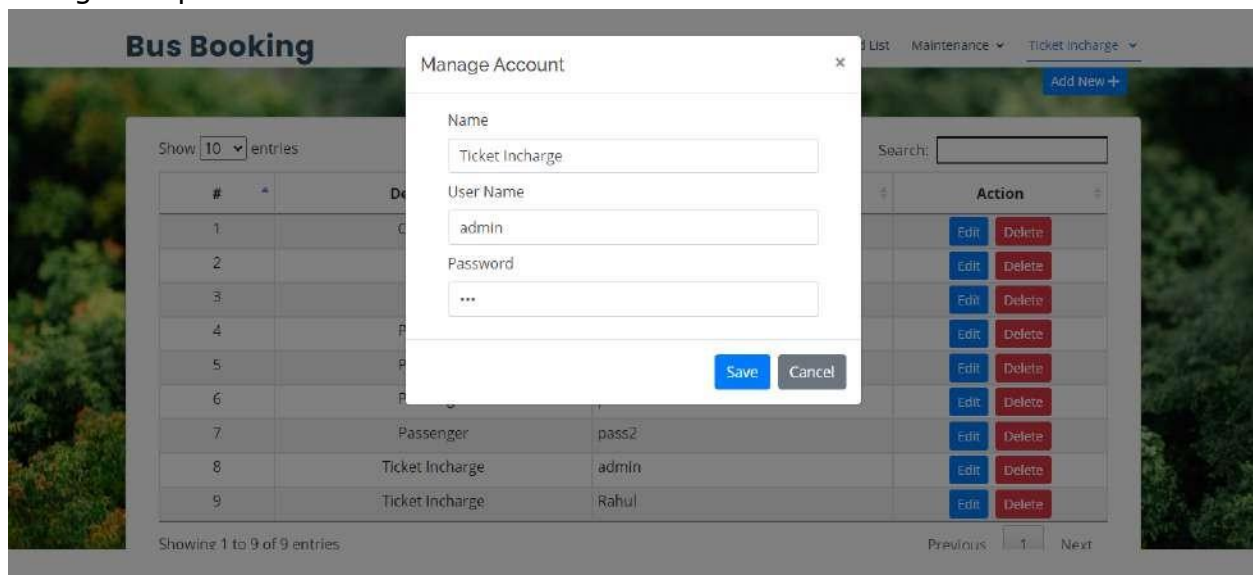
Manage Account (for admin):-

Using the manage account feature in the dropdown of name Admin the admin can change the password and save it to the database.

Schedule (for Employee):-

This is the screen which shows the schedule of the bus. Using this feature it will get easy for the employee to select the bus accordingly.
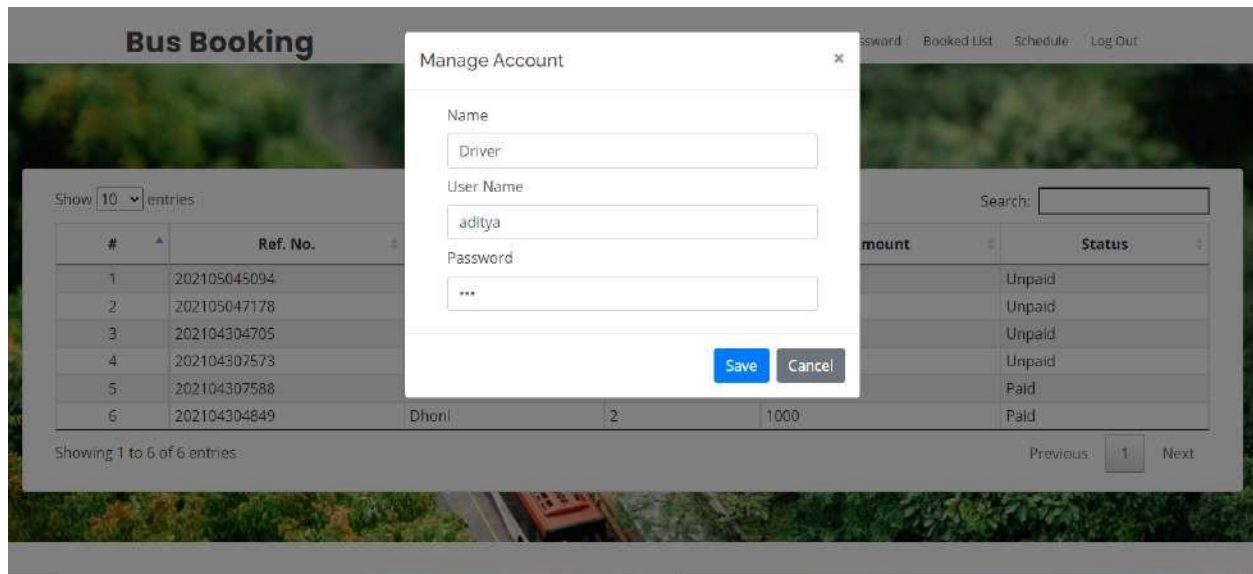
Booked List (for employee):-

Here is the booked list of all the present booked tickets the admin can edit them according to their change in no. of seats or paid status.

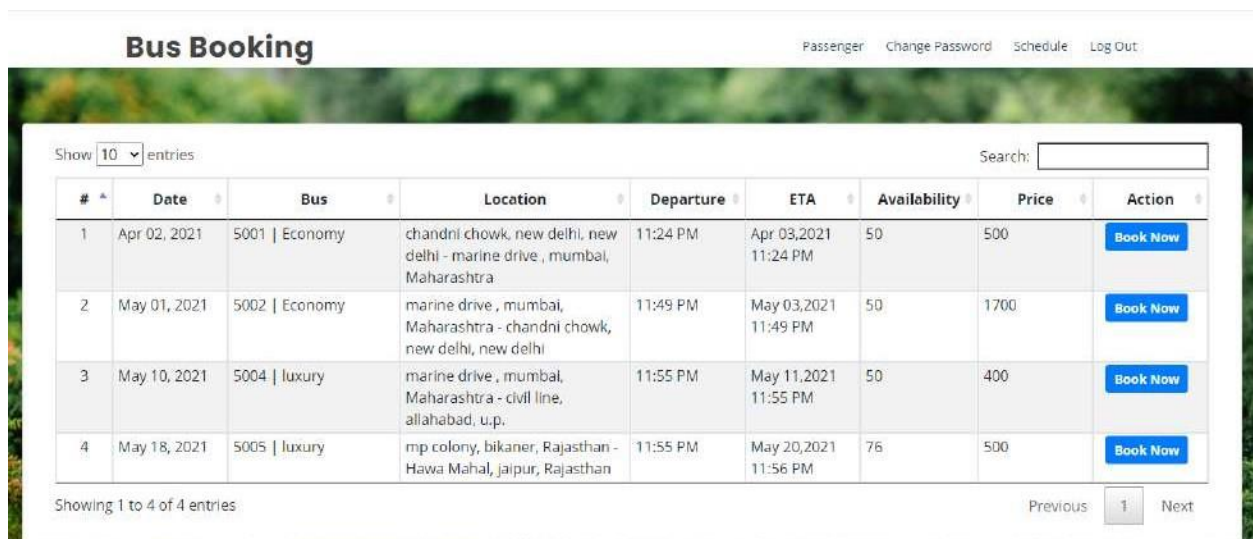## Manage Account (for employee):-

Using the change password feature in the dropdown of the name Employee the Employee can change the password and save it to the database.

Schedule (for customer):-

This is the screen which shows the schedule of the bus and the customer can automatically book for the tickets from here. Using this feature it will get easy for the customer to select and plan accordingly.
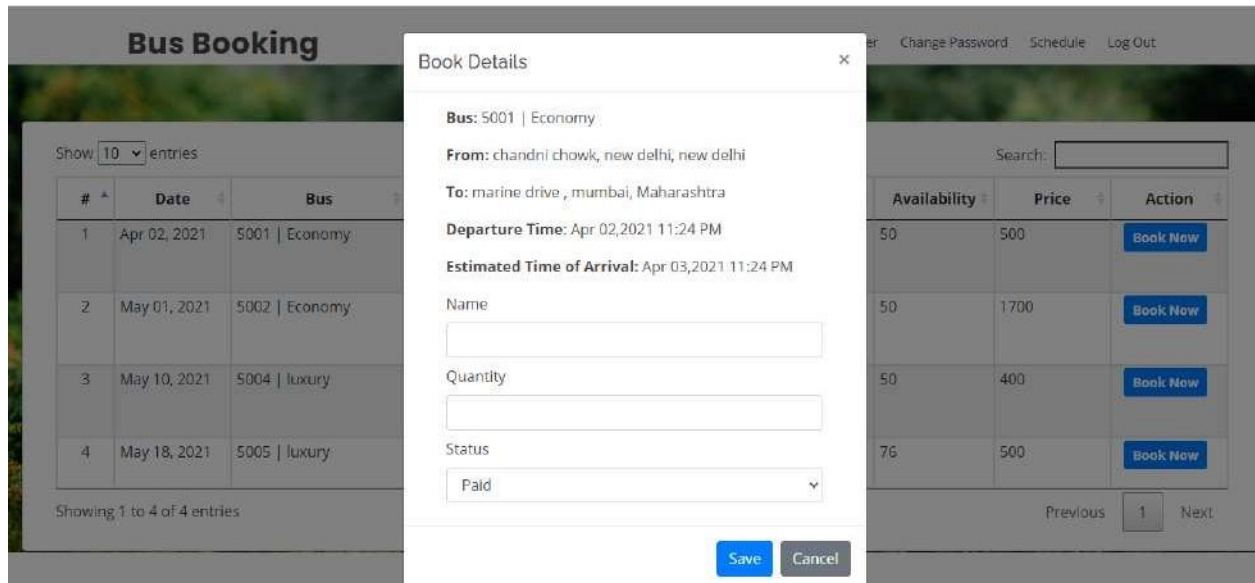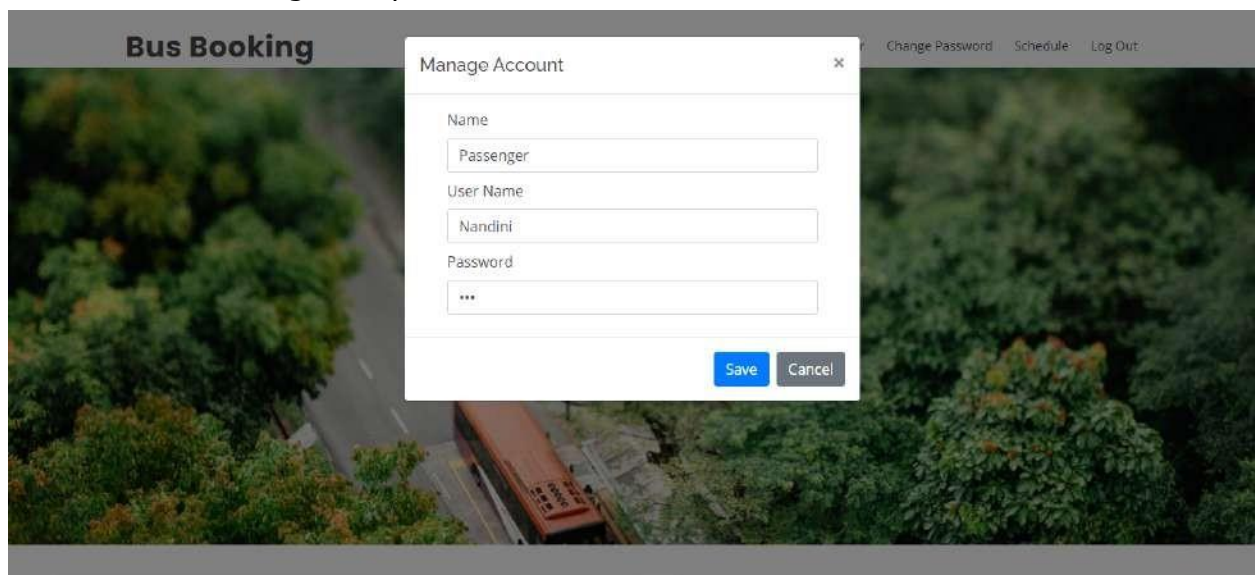
Change Password (for Customer):-

Using the change password feature in the dropdown of the name Customer the Customer can change the password and save it to the database.

Normalised Forms

First Normal Form (1NF) :

- A relation will be 1NF if it contains an atomic value.

- It states that an attribute of a table cannot hold multiple values. It must hold only a single-valued attribute.

- First normal form disallows the multi-valued attribute, composite attribute, and their combinations.

In our project the databases contain only single valued attributes in all the schemas. None of the attributes is multi valued.

Second Normal Form (2NF) :

- In the 2NF, relational must be in 1NF.

- In the second normal form, all non-key attributes are fully functional dependent on the primary key

Taking example for the schema "bus" , the non-key attributes are name, bus_number, status. These attributes are fully functional dependent on the primary key for this schema i.e. "id".

Similarly for all the other schemas, they are in 2NF.

Third Normal Form (3NF) :

- A relation will be in 3NF if it is in 2NF and does not contain any transitive partial dependency.

- 3NF is used to reduce the data duplication. It is also used to achieve data integrity.

- If there is no transitive dependency for non-prime attributes, then the relation must be in third normal form.

A relation is in third normal form if it holds at least one of the following conditions for every non-trivial functional dependency X → Y.

1. X is a super key.

2. Y is a prime attribute, i.e., each element of Y is part of some candidate key.

In our project, we could have made the schemas for scheduled_list, location and bus in a single schema. But that would have resulted in dependency of non prime attributes over non prime attributes which would have violated the rules for 3NF. So, to make it in 3NF, these schemas are kept seperate.

Relational Database Design

Booked :

id	schedule_id	ref_no	name	qty	status	date_updated

Bus :

id	name	bus_number	status	date_updated

Location :

id	termainl_name	city	state	status	updated

Schedule list :

id	bus_i d	from_ loacti on	to _locat ion	depar tute_t ime	eta	status	availa ble	price	date_ updat ed

Users :

id	name	user_type	username	password	status	date_upd ated

Conclusion

We successfully implemented a Bus Reservation System which provides online reservation of buses for customers.

- Provides basic facilities to employees to view booked list and schedules. And give all the rights to admin to edit bus list,booked list,schedule

- All the users can change their password too.

References

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