



Università  
degli Studi di  
Messina

## **Web Programming**

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# Library Reservation

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## Introduction:

This website is designed to provide students with an easy and seamless experience when reserving a spot in the library. The idea for this project came to me because the original reservation system of the University of Messina, in my opinion, lacks proper functionality and user experience. As a result, I decided to create a website that offers a much better experience for students who need to make reservations.

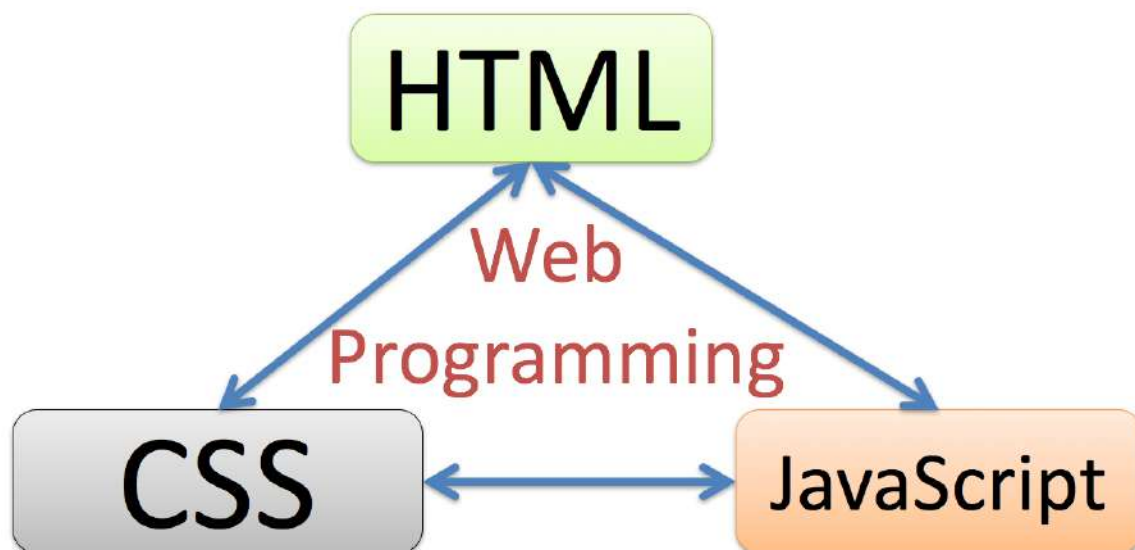
for create a website we must use three programming languages:

**HTML:** the standard language used to create the structure of web pages. It organizes content using elements like headings, paragraphs, images, and links. Each element is defined by tags, such as `<h1>` for headings or `<p>` for paragraphs.

**CSS:** is used to style and design web pages. It controls the layout, colors, fonts, and spacing of elements. CSS works with HTML to make websites visually appealing and user-friendly.

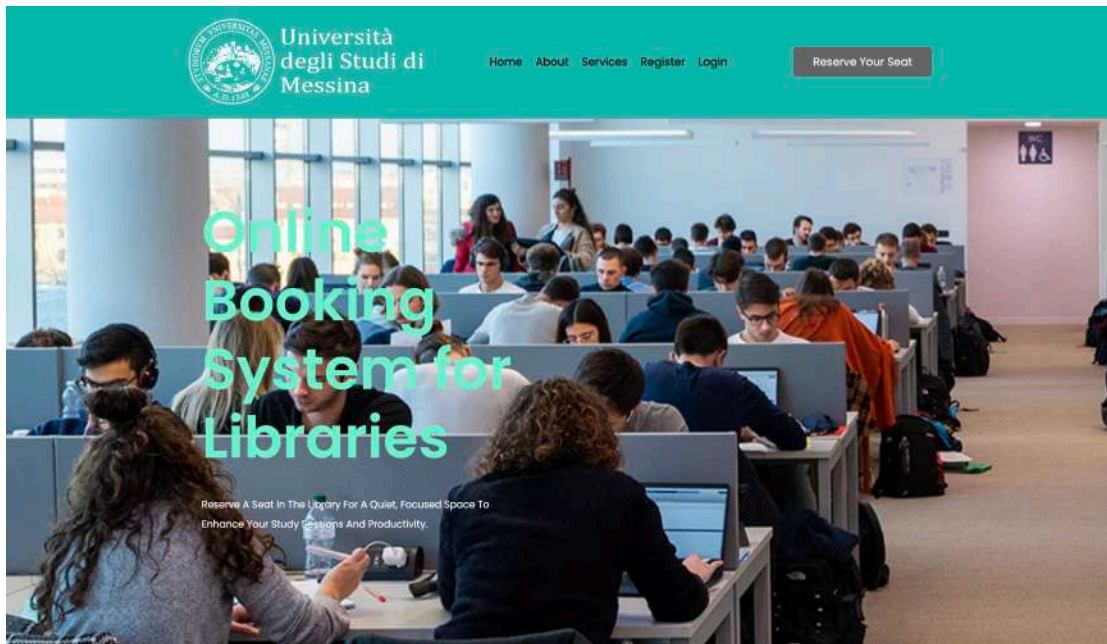
**PHP:** is a server-side scripting language used to create dynamic and interactive websites. It processes data, interacts with databases, and generates HTML for web pages. PHP is commonly used for tasks like user authentication and form handling.

**JAVA:** is a programming language that makes web pages interactive. It adds dynamic features like animations, form validation, and real-time updates. JavaScript runs in the browser and works with HTML and CSS to enhance user experience.



# Home

When you first access the website, you will encounter a welcoming and user-friendly main page designed for clarity and simplicity. Everything is clear and organized, ensuring students can easily navigate through sections like Login, Register, Home, About, and Library Services. The design prioritizes ease of use, making it simple for students to find exactly what they need without confusion.

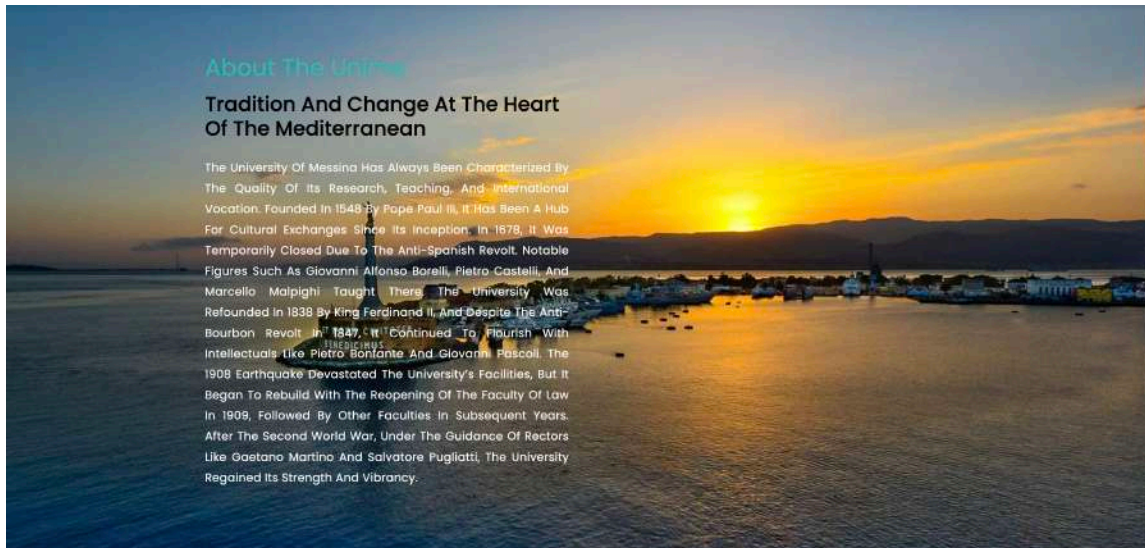


As shown on the right side of the picture, there is a button labeled 'Reserve Your Seat.' By clicking on it, you will be prompted to log in first and provide your details, including the preferred date and time, to make a reservation. Additionally, you can view your bookings in the 'Bookings' section for easy access and tracking.

## About

This section, as you can guess from the heading, is related to the 'About' section, which delves into the rich history of the University of Messina. It offers an in-depth look at the university's origins, dating back to its founding in 1548 by Pope Paul III, and traces its development through significant historical events. The narrative covers challenges such as the temporary closure in 1678 due to the anti-Spanish revolt and the devastation caused by the 1908 earthquake, as well as the university's resilience and growth after these setbacks. The section not only outlines the academic legacy of prominent figures like Giovanni Alfonso Borelli and Marcello Malpighi but also showcases the university's continued commitment to excellence in education and research. Alongside the historical

account, a beautiful portrait of Messina adds a visual connection to the university's enduring presence in the heart of the Mediterranean.



## SERVICES

### Access to Resources

The library offers a wide range of physical and digital resources, including books, journals, e-books, research databases, and special collections such as rare manuscripts and historical documents.

### Free Internet

We provide 24/7 free and reliable internet access to support students and staff in their online research and academic activities at any time.

### Library Open 24/7

The library is accessible around the clock, allowing students and faculty to study, conduct research, or enjoy quiet spaces at any time of the day or night.

### Campus Canteen

Our canteen is open throughout the day, offering meals, snacks, and drinks for students to relax and recharge between study sessions.

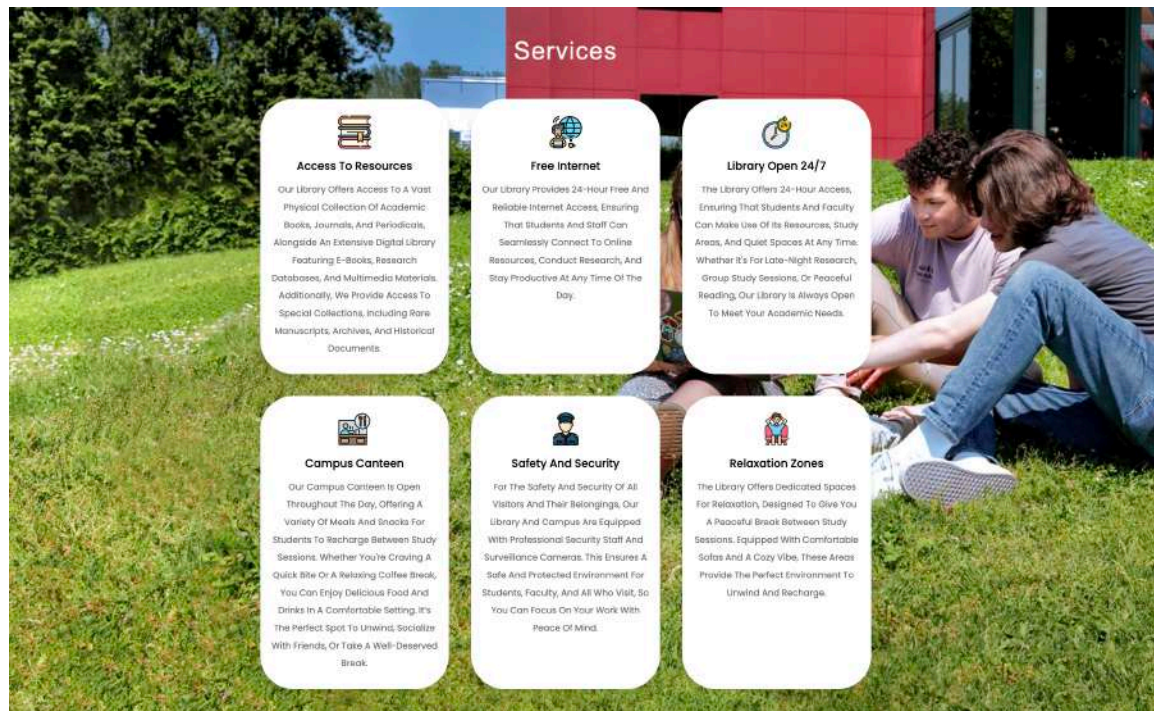
### Safety and Security

The library and campus are equipped with professional security staff and surveillance cameras, ensuring a safe environment for all visitors.



## Relaxation Zones

The library provides comfortable relaxation zones where students can take a break and unwind between study sessions.



## Information

### Silence Policy

To ensure a conducive and quiet environment for studying, it is expected that silence be maintained in all study areas of the library. For group work or discussions, students are encouraged to use the designated discussion rooms to avoid disturbing others.

### Borrowing Rules

The library operates a borrowing system where students can check out books and materials for a specified duration. It is important for students to return or renew borrowed items on time to avoid incurring late fees.

### Food and Drink Policy

In order to maintain a clean and distraction-free study space, only bottled water is allowed in the study areas. All other food and beverages should be consumed in the designated canteen or relaxation zones, ensuring that study areas remain comfortable for all visitors.



## Make Reservation

To make a reservation, follow these steps:

- **Your Name:** Enter your full name so we can identify you in our system.
- **Your Number:** Provide your contact number in case we need to reach you regarding your reservation.
- **Your Email:** Enter your email address so you can receive confirmation and updates about your reservation.
- **Date (dd/mm/yyyy):** Choose the date you would like to make your reservation for, in the format day/month/year.
- **Time (--:--):** Select the time you wish to reserve, making sure it fits within available slots.

These details will help ensure your reservation is confirmed and processed correctly.

MAKE RESERVATION	
Your Name	
Your Number	
Your Email	
Date/mm/yyyy	
--:--	

## Footer

The footer section of the website includes important contact information and links to the university's social media accounts. Here's how it's organized:

- **Phone Number:** This is where you can reach the University of Messina for any inquiries (+398158488).
- **Address:** The university's physical location is listed as Piazza Pugliatti, 1 - 98122 Messina, so visitors know where it's situated.
- **Opening Hours:** The library and services are available 24 hours a day, ensuring access at any time.

- **Email Address:** For communication or support, you can reach out via the provided email, [welcompoint@unime.it](mailto:welcompoint@unime.it).
- Additionally, there are icons linking to the university's **Instagram** and **YouTube** pages, allowing easy access to their social media profiles for updates and content. The **University of Messina Logo** is also typically placed here for brand recognition and visual appeal.



## Apply Database

**Dockerfile:** The **Dockerfile** sets up a PHP environment with Apache and installs the **mysqli** extension, which allows PHP to connect to a MySQL database.

```

dockerfile > FROM
1 FROM php:apache
2
3 # Install mysqli extension
4 RUN docker-php-ext-install mysqli

```

**Docker Compose:** **Docker Compose** configures three containers: one for PHP, one for MySQL, and one for phpMyAdmin, providing a complete environment for running and managing the application.

```

1 services:
2   mysql:
3     image: mysql:latest
4     container_name: mysql-wp
5     environment:
6       MYSQL_ROOT_PASSWORD: mysql-root
7       MYSQL_DATABASE: library
8       MYSQL_USER: Amirza
9       MYSQL_PASSWORD: root
10    ports:
11      - "3306:3306"
12    volumes:
13      - ./data:/var/lib/mysql
14
15   php:
16     build:
17       context: .
18       dockerfile: Dockerfile
19     container_name: php-wp
20     ports:
21       - "8082:80"
22     volumes:
23       - ./src:/var/www/html
24     depends_on:
25       - mysql
26
27   phpmyadmin:
28     image: phpmyadmin:latest
29     container_name: phpmyadmin-wp
30     environment:
31       PMA_HOST: mysql
32       MYSQL_ROOT_PASSWORD: mysql-root
33     ports:
34       - "8081:80"
35     depends_on:
36       - mysql

```

# Tables of the Database and Their Purpose

1. **Admin Table:** Stores administrator credentials, including details like ID, email, and other relevant information.
2. **Reservations Table:** Contains details about user reservations, such as reservation times and related information.
3. **Users Table:** Maintains user data, including name, email, password, and other personal details.
4. **User\_Login Table:** Tracks user login activities, including user IDs and login timestamps.



**Users Table:** in this section as expected the table of people who register in website Is shown.

Showing rows 0 - 5 (6 total, Query took 0.0027 seconds.)

SELECT \* FROM `users`

☐ Profiling

[ Edit inline ]

[ Edit ]

[ Explain SQL ]

[ Create PHP code ]

[ Refresh ]

☐ Show all

Number of rows: 25

Filter rows: Search this table

Sort by key: None

Extra options

		id	firstname	middlename	lastname	gender	phone	address	email	password	created_at
<input type="checkbox"/>		1	amirreza		tofighirad	male	3338158488	Via Solita 12 a 98164 Torre Faro Messina	amirreza.igh110@gmail.com	\$2y\$12\$4UbnLJE6E1btmW9MRbKBJFbuhcKKvSTzUoyQRa...	2025-01-13 23:30:50
<input type="checkbox"/>		2	amir	NULL	hadifar	male	9141007667	pavia	amir.hadifar@gmail.com	\$2y\$12\$VupC.2QdEvQzOEfpB04FPuDaMm5eALQfPUS3BGXyUM...	2025-01-14 00:02:45
<input type="checkbox"/>		3	niaz	NULL	soltani	male	9143108234	Tabriz, Elgoli	niaz.soltani@gmail.com	\$2y\$12\$Aldrap2a91gC2zU0iZa.CM0.ekTPm1XGWqHUKgoFY...	2025-01-14 13:46:42
<input type="checkbox"/>		4	ramtin	NULL	vaqel	male	5033445	tehran	ramtin.vaqel@gmail.com	\$2y\$12\$JyTy1TXRuyZ0Eh7Hw4JstLzLfaYohwN6Wh7soQlJu...	2025-01-14 17:48:24
<input type="checkbox"/>		5	kalim	NULL	afjar	male	91410001000	afjariye	kalim@gmail.com	\$2y\$12\$gMY1bxeVuW85oAmqrKbJJa4PRXh27omaGd6rA7Gwp8...	2025-01-15 16:14:31
<input type="checkbox"/>		6	amirreza	NULL	tofighirad	male	3338158488	Messina	amirreza@gmail.com	\$2y\$12\$FJ98EIdL5e8H#MaZwTaaubyTxPKb7oRhXSyDk8nkK...	2025-01-17 17:03:04

☐ Check all

With selected:

Edit

Copy

Delete

Export

**User\_Login Table:** This section provides a detailed view of all users who have successfully logged into the website. It displays important information such as the user's name, email, and login time, making it easier to track user activity. Administrators can use this section to monitor and manage logged-in users, ensuring that only authorized



individuals have access to the system. This feature helps maintain a secure and well-organized platform while providing insights into user engagement and activity.

	id	user_id	login_time
<input type="checkbox"/>	1	2	2025-01-14 00:48:54
<input type="checkbox"/>	2	2	2025-01-14 00:59:34
<input type="checkbox"/>	3	1	2025-01-14 01:05:47
<input type="checkbox"/>	4	2	2025-01-14 01:13:29
<input type="checkbox"/>	5	3	2025-01-14 13:46:56
<input type="checkbox"/>	6	2	2025-01-14 14:07:49
<input type="checkbox"/>	7	2	2025-01-14 14:08:08
<input type="checkbox"/>	8	2	2025-01-14 15:09:21
<input type="checkbox"/>	9	4	2025-01-14 17:48:50
<input type="checkbox"/>	10	4	2025-01-14 17:48:11
<input type="checkbox"/>	11	4	2025-01-14 17:51:07
<input type="checkbox"/>	12	4	2025-01-14 17:53:51
<input type="checkbox"/>	13	4	2025-01-14 17:56:42
<input type="checkbox"/>	14	4	2025-01-14 17:58:17
<input type="checkbox"/>	15	4	2025-01-14 18:00:21
<input type="checkbox"/>	16	4	2025-01-14 18:06:52
<input type="checkbox"/>	17	4	2025-01-14 18:06:58
<input type="checkbox"/>	18	4	2025-01-14 18:08:10
<input type="checkbox"/>	19	2	2025-01-14 18:11:20
<input type="checkbox"/>	20	4	2025-01-14 18:20:46
<input type="checkbox"/>	21	4	2025-01-14 18:24:22
<input type="checkbox"/>	22	4	2025-01-14 18:26:35
<input type="checkbox"/>	23	4	2025-01-14 18:27:27
<input type="checkbox"/>	24	2	2025-01-14 18:33:18
<input type="checkbox"/>	25	2	2025-01-14 18:37:13

**Reservations Table:** This table contains comprehensive details about user reservations. It includes information such as the reservation ID, user ID, reserved date and time, and any additional relevant details. This allows for efficient tracking and management of all reservations made through the system, ensuring accuracy and organization.

	id	name	email	phone	reservation_date	reservation_time
<input type="checkbox"/>	1	kalm	kalm@gmail.com	91410001000	2025-01-24	12:15:00
<input type="checkbox"/>	2	niaz	niaz.soltani@gmail.com	9143108234	2025-01-24	13:00:00
<input type="checkbox"/>	3	niaz	niaz.soltani@gmail.com	123456779	2025-01-29	15:00:00
<input type="checkbox"/>	4	kalm	kalm@gmail.com	222222222	2025-02-22	16:00:00
<input type="checkbox"/>	5	niaz	niaz.soltani@gmail.com	999999999	2025-02-01	08:00:00
<input type="checkbox"/>	6	niaz	niaz.soltani@gmail.com	000000000	2025-02-02	06:00:00

**Admin Table:** The **Admin Table** stores the credentials and essential details of the administrators, such as their unique ID, email address, and other necessary information that is used to manage access and permissions within the system. In this section I choose myself amir as a admin.



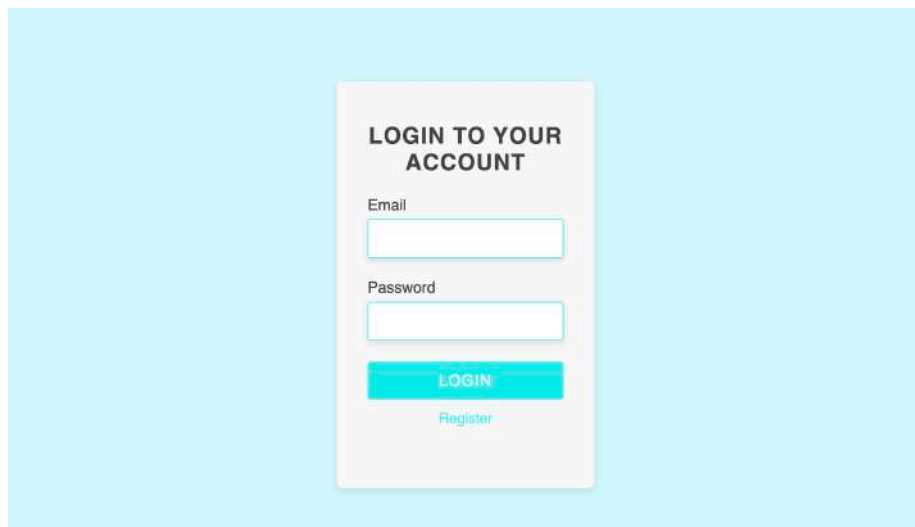
The screenshot shows a database management tool interface. At the top, it says "Showing rows 0 - 0 (1 total, Query took 0.0032 seconds.)". Below that is a SQL query editor with the text "SELECT \* FROM 'admin'". There are buttons for "Profiling", "Edit inline", "Explain SQL", "Create PHP code", and "Refresh". Below the query editor is a table with the following data:

	id	username	password	email	created_at
<input type="checkbox"/>	1	amirreza	1234	amir@gmail.com	2025-01-20 16:43:30

Below the table, there are buttons for "Edit", "Copy", "Delete", "Check all", "With selected:", "Export", and "Refresh".

## Login Section

In the login section, both users and admins can access their accounts by entering their email and password. After successful authentication, they are redirected to their respective dashboards: admins are directed to a dashboard for managing system functions, while users are taken to a dashboard with personalized features and services.



The login form is titled "LOGIN TO YOUR ACCOUNT". It has two input fields: "Email" and "Password". Below the "Password" field is a red "LOGIN" button. Below the "LOGIN" button is a link that says "Register".

## Booking

In this section, once the user logs in and successfully makes a reservation, they can easily view all their booking details in the "Booking" section. This section is part of the **user\_dashboard.php**, where users have a personalized space to track their reservations. It's designed to make it simple for users to check the status of their bookings, view

relevant information, and manage their reservations all in one place. This ensures a smooth and organized experience for every user as they navigate through the platform. It seems like this user is really enjoying the library and making the most of their visits! They are truly taking full advantage of everything the library has to offer.

Your Bookings					
Name	Email	Phone	Reservation Date	Reservation Time	Action
niaz	niaz.soltani@gmail.com	9143108234	2025-01-24	13:00:00	<a href="#">Edit</a> <a href="#">Delete</a>
niaz	niaz.soltani@gmail.com	123456779	2025-01-29	15:00:00	<a href="#">Edit</a> <a href="#">Delete</a>
niaz	niaz.soltani@gmail.com	999999999	2025-02-01	08:00:00	<a href="#">Edit</a> <a href="#">Delete</a>
niaz	niaz.soltani@gmail.com	0000000000	2025-02-02	06:00:00	<a href="#">Edit</a> <a href="#">Delete</a>

## Profile

This section is your personal profile space, where you can view all the information we have about you. Whether it's your name, email, or other personal details, everything is neatly displayed here for you to easily access. If you need to make any changes or updates to your information, this is the place to do it. We've made it simple and convenient for you to manage your account, ensuring that everything stays accurate and up to date!

Welcome, niaz soltani!

Your data

First Name:

niaz

Last Name:

soltani

Phone:

9143108234

Address:

Tabriz, Elgoli

Email:

niaz.soltani@gmail.com

UPDATE INFORMATION

Change Password

Current Password:

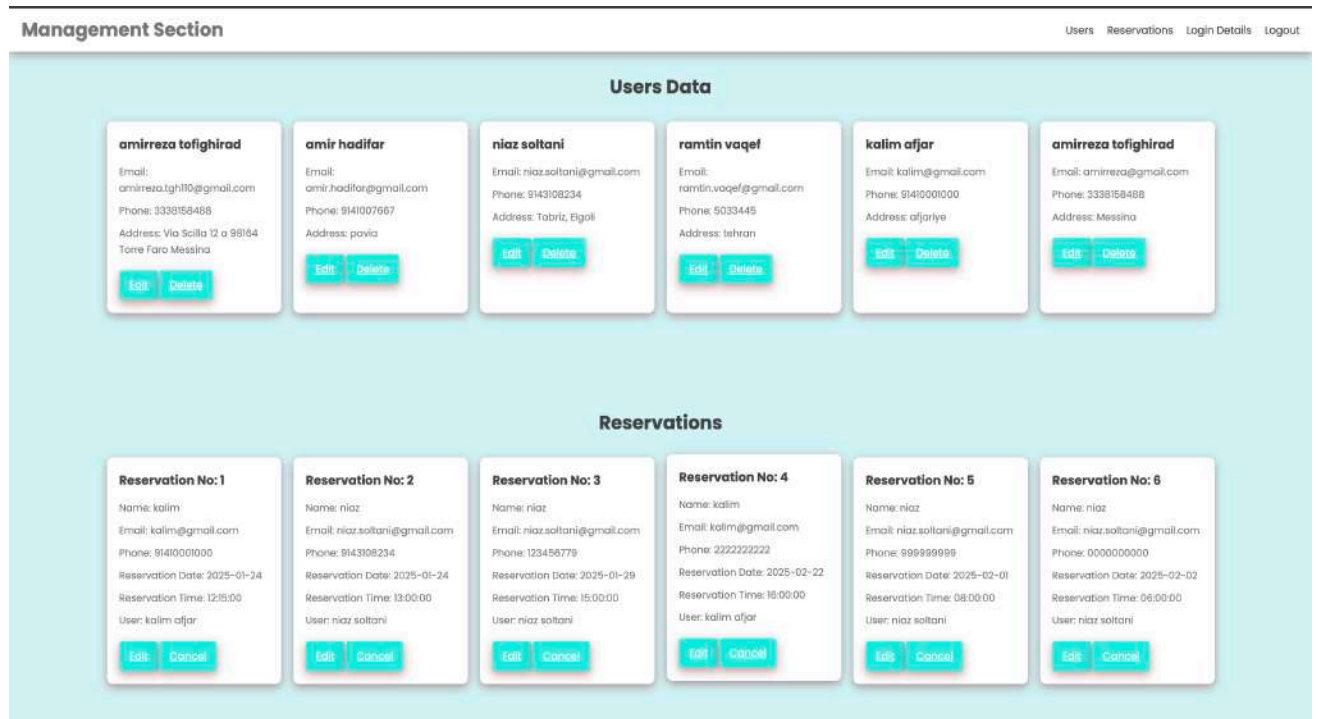
New Password:

Confirm New Password:

CHANGE PASSWORD

# Admin

The **Admin Dashboard** is designed to give admins full control over the system. From here, they can view login details of users, manage user information, and handle reservations with ease. Admins have the ability to edit or delete records whenever necessary, allowing them to keep everything accurate and well-organized. This dashboard is a powerful tool that helps admins efficiently oversee the system, ensuring everything runs smoothly and up to date.



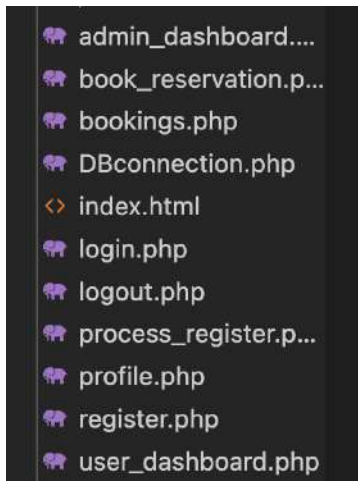
## Code

Let's take a quick look at the website's code. This will give you an overview of how the different sections and functionalities are implemented, helping you understand how everything is connected and works together. We'll walk through the key components, such as the HTML structure, CSS styling, PHP logic, and JavaScript interactions, to see how the website provides a seamless experience for users and administrators.

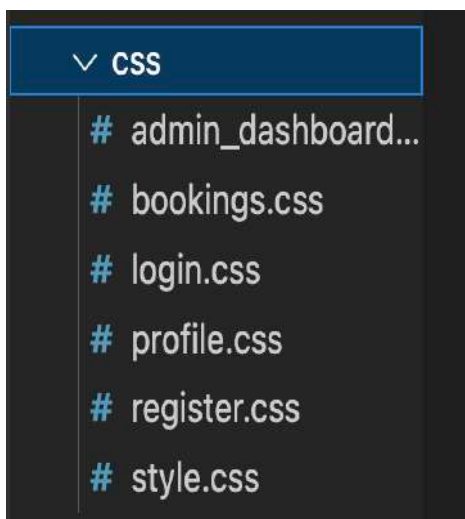
As mentioned in the first part of the report, we need to create PHP sections for each part of our HTML. For example, we have to implement PHP code for the **login** section to handle authentication, as well as for **reservation** management, **user profiles**, and other

dynamic parts of the website. By using PHP, we ensure that the website can process data, interact with databases, and personalize user experiences based on their input.

Now, let's take a look at the images to get a better idea of how everything fits together. The visuals will help us see how each part of the website looks and functions, giving us a clearer understanding of the user experience. By looking at these images, we can easily connect the code with the design and get a better sense of how everything works in real life.



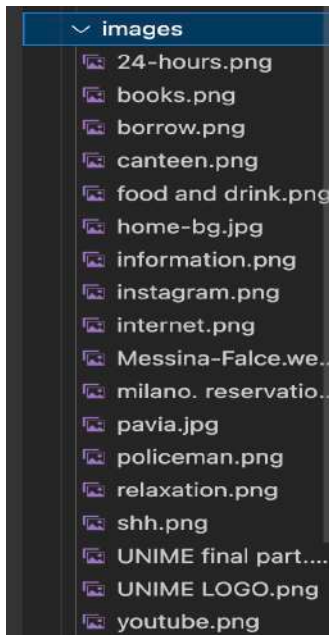
Here's the PHP code for our sections, handling everything from user login to reservations and profile management. It processes data and ensures smooth functionality across the website.



Here are the CSS codes related to the PHP files. These styles are applied to the elements generated by the PHP code, ensuring that each section is well-designed and user-friendly. The CSS helps enhance the visual layout and makes the website more engaging.



This part shows the **Images** folder, where we store all the images and visuals that are used in the CSS to give the website a unique and stylish look. These images are key to making the site visually engaging and adding a bit of personality to it. Whether it's background images, icons, or decorative elements, they all play an important role in shaping the design and feel of the website. By using these images, we make the user experience more enjoyable, creating a beautiful and functional website that looks just as good as it performs!



## DB connection

The **DB connection** is established with a MySQL database, using essential credentials like the host, username, database name, and password. This connection ensures that the website can interact with the database to perform tasks such as retrieving user information, handling reservations, and managing other data. It's a vital component that enables smooth communication between the application and the database.

```
src > DBconnection.php
1  <?php
2
3  $host = 'mysql';
4  $user = 'Amirreza';
5  $password = 'root';
6  $db = 'Library';
7  $conn = mysqli_connect($host, $user, $password, $db);
8
9  if (!$conn) {
10     echo "connection error --> " . mysqli_connect_error();
11 }
12
13 ?>
```

# Goal

My goal in designing this website was to create a platform that is both user-friendly and efficient, catering to the needs of students and administrators alike. For students, I wanted the process of making reservations, accessing information, and exploring library services to be as easy and straightforward as possible. The focus was on providing a smooth and enjoyable experience, with clear navigation and intuitive features.

For administrators, the aim was to build a reliable system that simplifies their responsibilities, such as managing user details and handling reservations. The design ensures that admins can perform their tasks efficiently, without unnecessary complexity, making their work more manageable.

In summary, the goal was to create a balanced and functional platform that provides a seamless experience for all users while maintaining an attractive and easy-to-use interface.

Thank you for taking the time to review my report. I appreciate your guidance and look forward to your feedback.