CS431

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Topics

- PHP and MySQL.
- Basic User Authentication.
- Table Relationships and Manipulation.

Web App

http://njit-cs431-chat.herokuapp.com/

User Auth

```html
<!--Register-->
<form action="login.php" method="post" autocomplete="off">
    <input name="username" type="text" placeholder="Username">
    <input name="password" type="password" placeholder="Password">
    <input name="confirm-password" type="password" placeholder="Confirm Password">
    <button name="register" type="submit">Register</button>
</form>

<!--Login-->
<form action="login.php" method="post" autocomplete="off">
    <input name="username" type="text" placeholder="Username">
    <input name="password" type="password" placeholder="Password">
    <button name="login" type="submit">Log In</button>
</form>
```

User Auth

```php
<?php
    if(isset($_POST["register"]))
    {
        // do something
    }
    elseif(isset($_POST["login"]))
    {
        // do something else
    }
    else
    {
        // default action
    }
?>
```

User Auth

- MD5 is a <u>cryptographic hash function</u> producing a 16-byte hash value expressed in text as a 32-bit hexadecimal number.

Plain Text	Encrypted Text
"Hello, World!"	6cd3556deb0da54bca060b4c39479839
NJIT	207903645c1045e5eb28b80882d6a2f1
Here is some significantly longer text.	706e5d59596d9c4ffd7f31d2c1b64235

User Auth

```php
<?php
    $username = $_POST["username"];
    $password = $_POST["password"];

    /*
     *   After verifying input criteria...
     */

    $result = query("INSERT INTO users (username, password) VALUES (?, ?)", $username, md5($password));
    if(count($result) == 0)
    {
        $query_id = query("SELECT LAST_INSERT_ID() AS id");
        $_SESSION["id"] = $query_id[0]["id"];
        redirect("index.php");
    }
    else
    {
        render("login.php", ["title" => "Login", "error" => "Username already exists - please try again!"]);
    }
?>
```

User Auth

```
mysql> SELECT * FROM users;
+----+----------+----------------------------------+
| id | username | password                         |
+----+----------+----------------------------------+
|  1 | jayrav13 | 9907428621fbb6c4c475cba882fdc0d8 |
|  3 | ballct89 | 8a58f11a0d66844c4724dc03ffdcdaa5 |
|  4 | anish591 | 5674c6359867087a0c983a81bf29466e |
+----+----------+----------------------------------+
3 rows in set (0.02 sec)
```

User Auth

```php
<?php
    $username = $_POST["username"];
    $password = $_POST["password"];

    $result = query("SELECT * FROM users WHERE username = ? and password = ?", $username, md5($password));
    if(count($result) == 0)
    {
        render("login.php", ["title" => "Login", "error" => "Credentials not found. Please register!"]);
    }
    else
    {
        $_SESSION["id"] = $result[0]["id"];
        redirect("index.php");
    }
?>
```

Tables

```
mysql> SHOW COLUMNS IN users;
+----------+-------------+------+-----+---------+----------------+
| Field    | Type        | Null | Key | Default | Extra          |
+----------+-------------+------+-----+---------+----------------+
| id       | int(11)     | NO   | PRI | NULL    | auto_increment |
| username | varchar(16) | NO   | UNI | NULL    |                |
| password | varchar(64) | NO   |     | NULL    |                |
+----------+-------------+------+-----+---------+----------------+
3 rows in set (0.00 sec)

mysql> SHOW COLUMNS IN messages;
+---------+---------+------+-----+---------+----------------+
| Field   | Type    | Null | Key | Default | Extra          |
+---------+---------+------+-----+---------+----------------+
| id      | int(11) | NO   | PRI | NULL    | auto_increment |
| user_id | int(11) | NO   |     | NULL    |                |
| message | text    | NO   |     | NULL    |                |
+---------+---------+------+-----+---------+----------------+
3 rows in set (0.01 sec)
```

Tables

```sql
SELECT
    users.username AS username,
    messages.*
FROM
    messages
LEFT JOIN
    users
ON
    messages.user_id = users.id
ORDER BY
    messages.id ASC;
```

Tables

```
mysql> SELECT users.username, messages.* FROM messages LE
+-----------+----+---------+----------------------------+
| username  | id | user_id | message                    |
+-----------+----+---------+----------------------------+
| jayrav13  |  1 |       1 | Here's my message!         |
| jayrav13  |  2 |       1 | Here's another!            |
| jayrav13  |  4 |       1 | Here's another message.    |
| jayrav13  |  5 |       1 | Let's try one more time.   |
| jayrav13  |  6 |       1 | Let's try again?           |
| jayrav13  |  7 |       1 | Sup                        |
| jayrav13  |  8 |       1 | Yo                         |
| ballct89  |  9 |       3 | What up                    |
| anish591  | 10 |       4 | Sup                        |
| jayrav13  | 11 |       1 | Thanks guys!               |
+-----------+----+---------+----------------------------+
10 rows in set (0.03 sec)
```

GitHub

https://github.com/jayrav13/cs431-chat