

3/12/2025

```
tehergs@csci-411-linux:~$ sudo nano /var/www/html/weather_ui.php
```

```
GNU nano 4.8 /var/www/html/weather/ui.php
<?php
/**
 * Weather Database Interactive Viewer
 * Author: Thomas Hoerger - Group 9
 *
 * Description:
 * This program allows users to dynamically select a table from the Weather Database
 * and display its data in the "Display" tab without needing a submit button.
 */

include 'db_connect.php'; // Include database connection file

// Determine which table is selected from the dropdown. Default is "WeatherReports".
$table = isset($_GET['table']) ? $_GET['table'] : 'WeatherReports';

$displayName = preg_replace('/(?<!\\ ) [A-Z]/', ' $0', $table); // Add spaces before uppercase letters
$displayName = ucwords(str_replace('_', ' ', trim($displayName))); // Format and capitalize

// Fetch the first 30 rows from the selected table
$sql = "SELECT * FROM $table LIMIT 30";
$result = $conn->query($sql);

// Retrieve column headers dynamically from the selected table
$headers = [];
if ($result && $result->num_rows > 0) {
    $headers = array_keys($result->fetch_assoc()); // Extract column names from the first row
    $result->data_seek(0); // Reset result pointer to fetch rows again
}
?>

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="author" content="Thomas Hoerger - Group 9">
    <meta name="description" content="Interactive Weather Database Viewer">
    <title>Weather Database - Group 9</title>

    <style>
        /* General styling for the webpage */
        body {
            font-family: Arial, sans-serif;
            background-color: #f5f5f5;
            text-align: center;
        }

        /* Title styling */
        h1 {
            font-weight: bold;
            color: black;
        }
    </style>

```

2nd part of code:

```
/* Navigation tab container */
.tab-container {
    display: flex;
    justify-content: center;
    margin: 20px 0;
}

/* Styling for each tab button */
.tab {
    padding: 12px 20px;
    cursor: pointer;
    background-color: #007BFF;
    color: white;
    border: 1px solid black;
    margin: 0 5px;
}

/* Change tab color on hover */
.tab:hover {
    background-color: #0056b3;
}

/* Highlight the active tab */
.tab.active {
    background-color: #003f7f;
}

/* Hide all content sections by default */
.content {
    display: none;
    margin-top: 20px;
}

/* Show the active content section */
.content.active {
    display: block;
}

/* Styling for tables */
table {
    width: 80%;
    margin: auto;
    border-collapse: collapse;
    background-color: white;
}

/* Styling for table headers and data cells */
th, td {
    padding: 12px;
    border: 1px solid black;
    text-align: center;
}
```

3rd part of code:

```
/* Styling for table headers */
th {
    background-color: #007BFF;
    color: white;
}

/* Alternate row coloring for readability */
tr:nth-child(even) {
    background-color: #f9f9f9;
}

/* Highlight rows when hovered */
tr:hover {
    background-color: #ddd;
}
</style>
</head>
<body>

<!-- Main Title -->
<h1>Weather Database Viewer</h1>
<p><strong>Author:</strong> Thomas Hoerger - Group 9</p>

<!-- Navigation Tabs -->
<div class="tab-container">
    <div class="tab active" onclick="showTab('selectTab')">Select</div>
    <div class="tab" onclick="showTab('displayTab')">Display</div>
</div>

<!-- Select Table Section -->
<div id="selectTab" class="content active">
    <h2>Select a Table</h2>

    <!-- Dropdown menu to select a table (auto-updates on selection change) -->
    <label for="table">Choose a Table:</label>
    <select name="table" id="table" onchange="changeTable(this.value)">
        <option value="WeatherReports" <?=( $table == 'WeatherReports' ) ? 'selected' : '' ?>>Weather Reports</option>
        <option value="Locations" <?=( $table == 'Locations' ) ? 'selected' : '' ?>>Locations</option>
        <option value="Forecasts" <?=( $table == 'Forecasts' ) ? 'selected' : '' ?>>Forecasts</option>
    </select>
</div>

<!-- Display Table Section -->
<div id="displayTab" class="content">
    <h2><?=( htmlspecialchars($displayTableName) ) ?></h2> <!-- Display selected table name -->

    <!-- Display table only if data exists -->
    <?php if ( $result && $result->num_rows > 0 ): ?>
    <table>
        <tr>
            <?php
                // Generate table headers dynamically
                foreach ( $headers as $header ): ?>
                    <th><?=( htmlspecialchars($header) ); ?></th>
                <?php endforeach; ?>
            </tr>
        </table>
    </div>
</div>
```

4th part of code:

```
</tr>
<?php endwhile; ?>
</table>
<?php else: ?>
<!-- Display message if no data is available -->
<p>No data available in this table.</p>
<?php endif; ?>
</div>

<script>
/**
 * Function to switch between tabs dynamically
 * @param {string} tabId - The ID of the tab to be displayed
 */
function showTab(tabId) {
    // Hide all tab content sections
    document.querySelectorAll('.content').forEach(tab => tab.classList.remove('active'));
    document.querySelector('.tab').forEach(t => t.classList.remove('active'));

    // Show the selected tab's content
    document.getElementById(tabId).classList.add('active');

    // Mark the selected tab as active
    document.querySelector(`.tab[onclick="showTab('${tabId}')"`).classList.add('active');
}

/**
 * Function to update the displayed table automatically when a new one is selected
 * @param {string} tableName - The selected table name
 */
function changeTable(tableName) {
    window.location.href = "?table=" + tableName; // Update the URL to refresh data dynamically
}
</script>

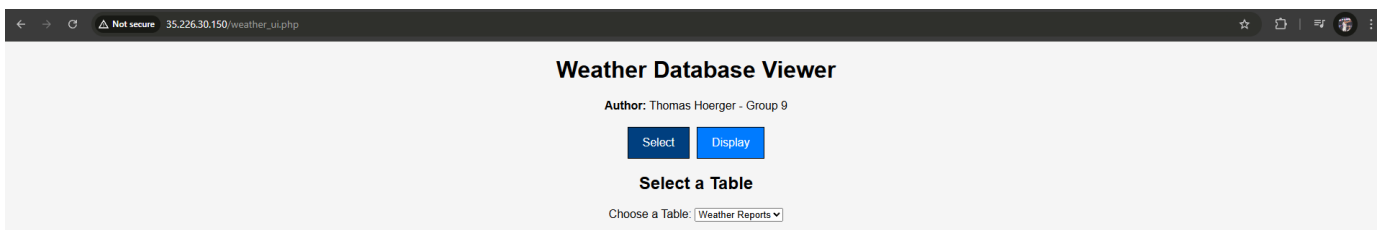
</body>
</html>

<?php
// Close the database connection
$conn->close();
?>
```

Step 3 restart Apache to apply changes:

```
tehergs@csci-411-linux:~$ sudo systemctl restart apache2
```

Step 4 go to http:// (External IP)/weather_ui.php:



Weather Database Viewer

Author: Thomas Hoerger - Group 9

Select

Display

Weather Reports

report_id	location_id	temperature	humidity	wind_speed	weather_condition	report_time
1	1	77.54	60	12.5	Sunny	2025-02-24 20:25:37
2	2	86.18	55	8.2	Cloudy	2025-02-24 20:25:37
3	3	72.32	70	5.6	Rainy	2025-02-24 20:25:37
4	4	66.02	80	3.3	Stormy	2025-02-24 20:25:37
5	5	80.96	50	9.8	Sunny	2025-02-24 20:25:37
6	6	60.08	90	20	Snowy	2025-02-24 20:25:37
7	7	95.72	40	7.5	Sunny	2025-02-24 20:25:37
8	8	69.8	65	6.3	Cloudy	2025-02-24 20:25:37
9	9	67.1	75	11	Rainy	2025-02-24 20:25:37
10	10	76.64	60	10.5	Sunny	2025-02-24 20:25:37
11	11	82.58	50	9.2	Clear	2025-02-24 20:25:37
12	12	54.32	85	4.8	Snowy	2025-02-24 20:25:37
13	13	84.2	45	6.7	Hot	2025-02-24 20:25:37
14	14	92.48	30	5.5	Sunny	2025-02-24 20:25:37
15	15	50.36	92	3.9	Foggy	2025-02-24 20:25:37

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Select

Display

Locations

location_id	user_id	city	country	latitude	longitude
1		New York	USA	40.71280000	-74.00600000
2		Los Angeles	USA	34.05220000	-118.24370000
3		Chicago	USA	41.87810000	-87.62980000
4		Houston	USA	29.76040000	-95.36980000
5		Phoenix	USA	33.44840000	-112.07400000
6		Philadelphia	USA	39.95260000	-75.16520000
7		San Antonio	USA	29.42410000	-98.49360000
8		San Diego	USA	32.71570000	-117.16110000
9		Dallas	USA	32.77670000	-96.79700000
10		San Jose	USA	37.33820000	-121.88630000

Weather Database Viewer

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Select

Display

Forecasts

forecast_id	location_id	forecast_date	expected_temp	expected_condition
1	1	2025-02-25	27	Sunny
2	2	2025-02-26	31.5	Cloudy
3	3	2025-02-27	23	Rainy
4	4	2025-02-28	19.5	Stormy
5	5	2025-03-01	28	Sunny
6	6	2025-03-02	16	Snowy
7	7	2025-03-03	36	Sunny
8	8	2025-03-04	22	Cloudy
9	9	2025-03-05	20	Rainy
10	10	2025-03-06	25	Sunny
11	11	2025-03-07	29	Clear
12	12	2025-03-08	13	Snowy
13	13	2025-03-09	30	Hot
14	14	2025-03-10	34	Sunny
15	15	2025-03-11	11	Foggy
16	16	2025-03-12	15	Rainy

23	23	2025-03-19	30	Cloudy
24	24	2025-03-20	19	Rainy
25	25	2025-03-21	25	Clear
26	26	2025-03-22	28	Hot
27	27	2025-03-23	15	Foggy
28	28	2025-03-24	33	Sunny
29	29	2025-03-25	20	Cloudy
30	30	2025-03-26	24	Rainy

Step 5 show MySQL is running:

```
tehergs@csci-411-linux:~$ sudo systemctl status mysql
● mysql.service - MySQL Community Server
   Loaded: loaded (/lib/systemd/system/mysql.service; enabled; vendor preset: enabled)
   Active: active (running) since Thu 2025-03-13 01:21:25 UTC; 28min ago
     Main PID: 627 (mysqld)
    Status: "Server is operational"
      Tasks: 39 (limit: 1134)
     Memory: 407.6M
    CGroup: /system.slice/mysql.service
            └─627 /usr/sbin/mysqld

Mar 13 01:21:16 csci-411-linux systemd[1]: Starting MySQL Community Server...
Mar 13 01:21:25 csci-411-linux systemd[1]: Started MySQL Community Server.
tehergs@csci-411-linux:~$
```

Step 6 show Apache is running:

```
tehergs@csci-411-linux:~$ sudo systemctl status apache2
● apache2.service - The Apache HTTP Server
   Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)
   Active: active (running) since Thu 2025-03-13 01:46:21 UTC; 4min 42s ago
     Docs: https://httpd.apache.org/docs/2.4/
  Process: 2274 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)
     Main PID: 2278 (apache2)
      Tasks: 7 (limit: 1134)
     Memory: 39.4M
    CGroup: /system.slice/apache2.service
            └─2278 /usr/sbin/apache2 -k start
              └─2279 /usr/sbin/apache2 -k start
                └─2280 /usr/sbin/apache2 -k start
                  └─2281 /usr/sbin/apache2 -k start
                    └─2282 /usr/sbin/apache2 -k start
                      └─2283 /usr/sbin/apache2 -k start
                        └─2284 /usr/sbin/apache2 -k start

Mar 13 01:46:21 csci-411-linux systemd[1]: Starting The Apache HTTP Server...
Mar 13 01:46:21 csci-411-linux systemd[1]: Started The Apache HTTP Server.
tehergs@csci-411-linux:~$
```