



第七組

自動氣象站

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01

Motivation

Motivation

建立資料庫以整合由不同氣象觀測站所觀測到的氣象條件，以利於通過分析氣象變化趨勢來預測未來的天氣情況。

僅收集 12.12-12.18 這週內觀測到的氣象狀況。

02

Requirement Analysis & Model

Requirement Analysis

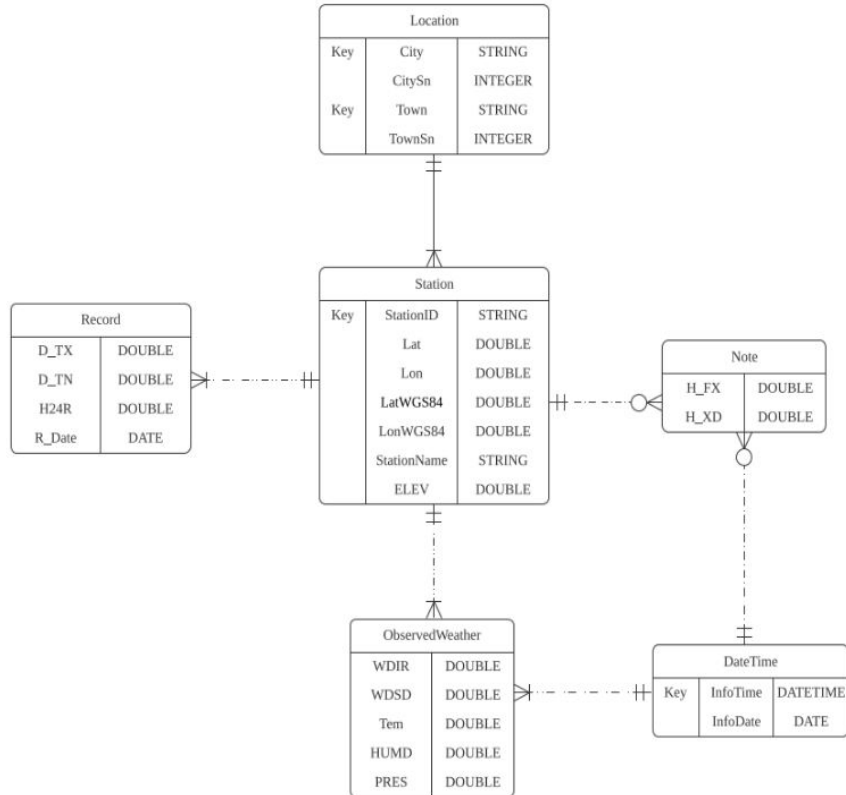
- 測站包含測站名稱、測站編號、海拔及經緯度
- 記錄測站的縣市鄉鎮名稱
- 一個測站會有多筆記錄(不同時間)
- 一個時間會有多筆記錄(不同測站)
- 記錄小時最大陣風風速及風向、溫度、濕度、氣壓
- 記錄某測站某日最高最低及平均溫度
- 可查詢某地某日溫度、濕度、氣壓、風速、最高最低及平均溫度
- 可統計某地在某段時間內的下雨天數及降水量

Requirement Analysis

- 需要登入系統限制訪客修改氣象站資料
- 管理員能讀取、建立、修改、刪除、查詢氣象站資料
- 訪客只能讀取、查詢氣象站資料

Model

ER Model



Relational Model

ObsWeather

WSDS	Temp	HUMD	PRES	WDIR	<u>StationNum</u>	<u>ObsTime</u>
------	------	------	------	------	-------------------	----------------

Station

Lat	Lon	Lat WGS84	Lon WGS84	ELEV	City	Town	Station Name	<u>StationID</u>
-----	-----	-----------	-----------	------	------	------	--------------	------------------

Location

CitySn	TownSn	<u>City</u>	<u>Town</u>
--------	--------	-------------	-------------

DateTime

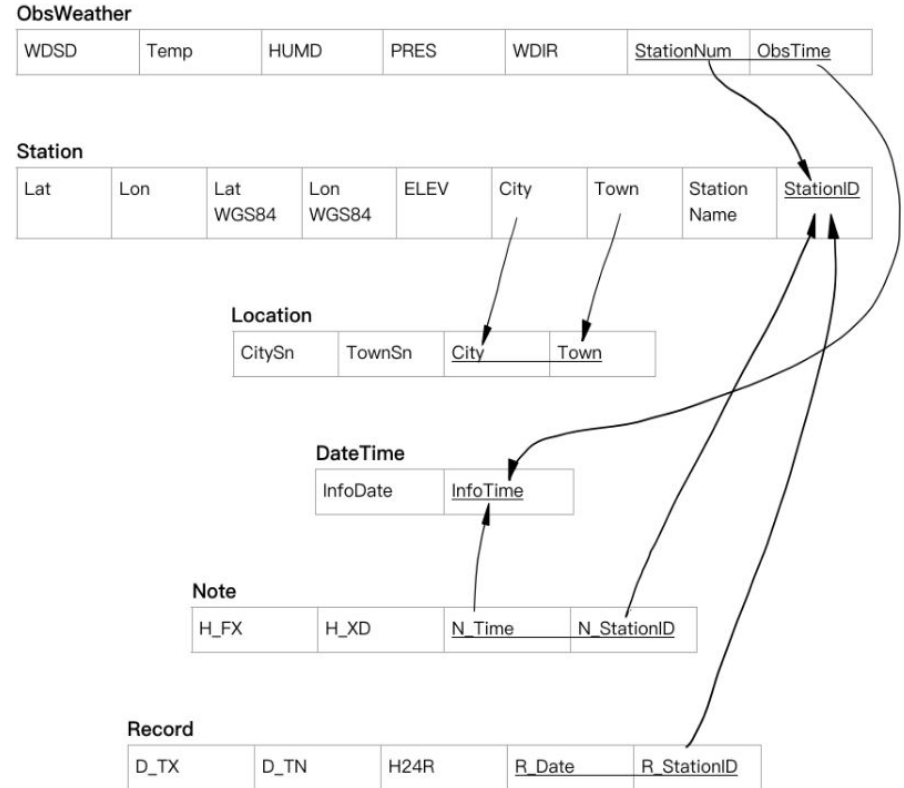
InfoDate	<u>InfoTime</u>
----------	-----------------

Note

H_FX	H_XD	<u>N_Time</u>	<u>N_StationID</u>
------	------	---------------	--------------------

Record

D_TX	D_TN	H24R	<u>R_Date</u>	<u>R_StationID</u>
------	------	------	---------------	--------------------



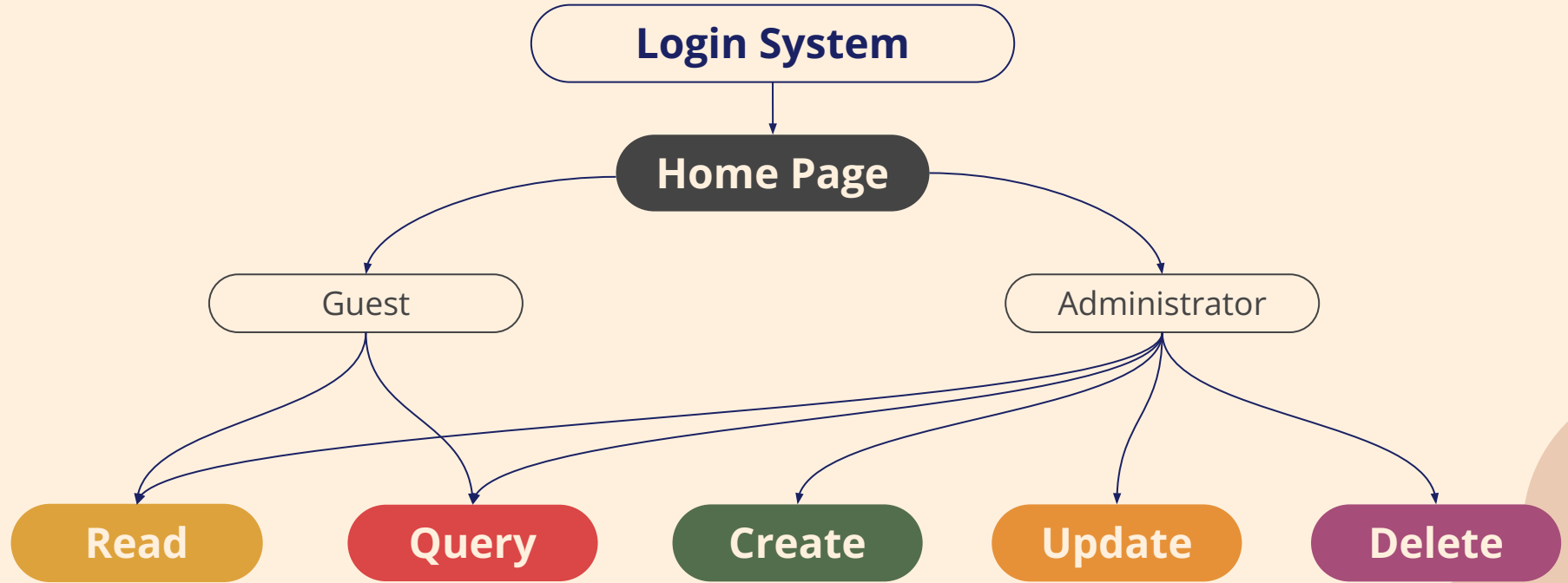
—
03

System Function

System Function

- 基本 CRUD 功能
- 可查詢某日某地的氣象情況，如溫度、濕度、下雨情況等
- 可統計某段時間內某地的降水量和下雨天數
- 可查詢某日某縣市的最高溫、最低溫
- 可依登入系統來區分使用者權限

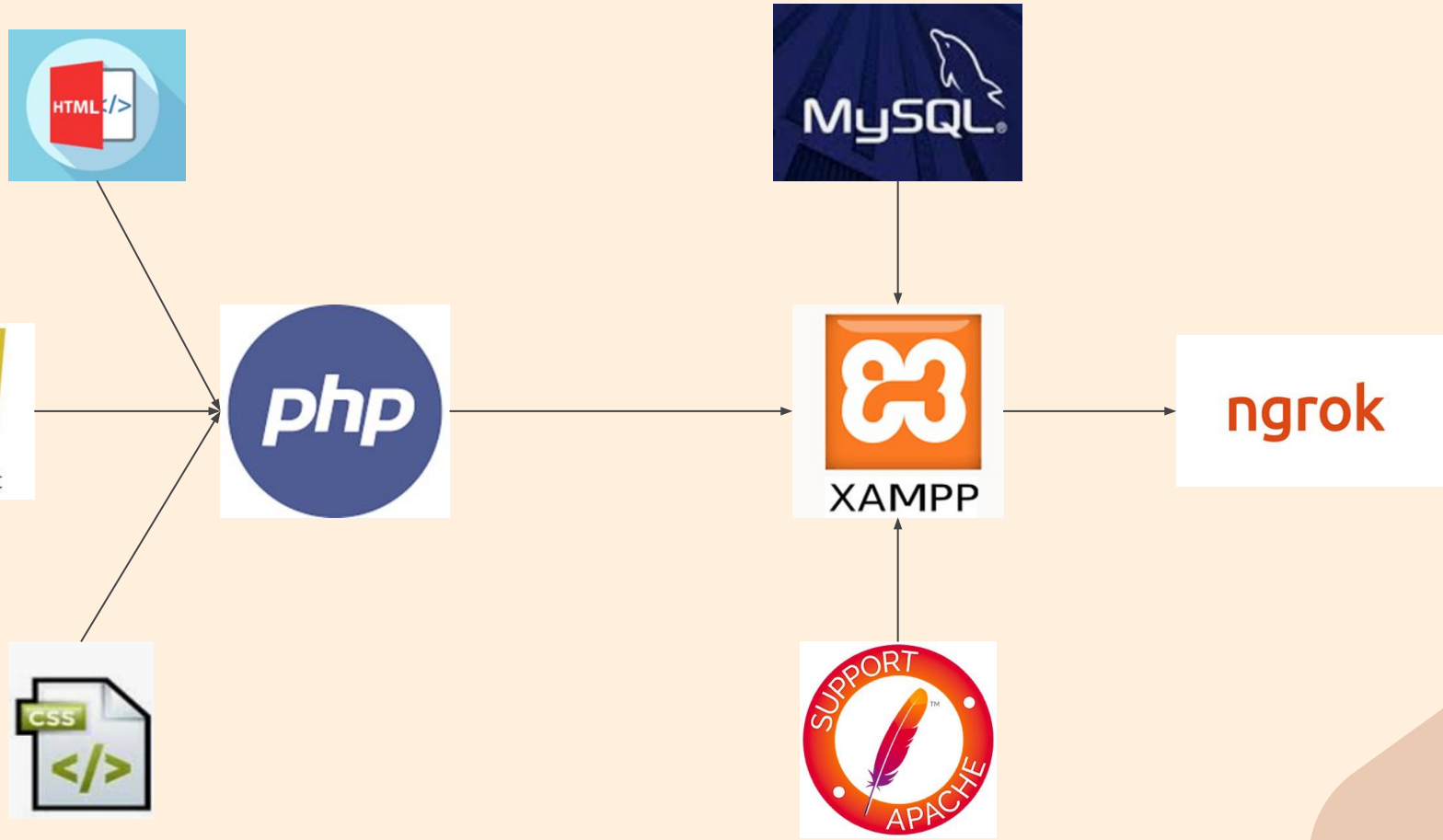
System Function



—
04

System Architecture

System Architecture



Apache

- **Apache 軟體基金會的一個 Open Source Web Server**
- **提供跨平台及高度安全性**
- **最流行的伺服器軟體之一**
- **支援 Perl、Python、Tcl 和 PHP**



XAMPP

- 把 Apache Web Server 與 PHP、Perl 和 MySQL 集合在一起的整合工具
- 允許使用者使用自己電腦的區域網路輕鬆架設 Web Server




XAMPP

ngrok

- 能開發 Web 後端
- 能達到 Port Forwarding 的效果
- 快速、使用容易且安全(提供 https 網域)
- 使用時機: 沒有靜態 IP 位址
但要被外網穩定訪問時

The ngrok logo is displayed in orange text on a white rectangular background. The logo consists of the word "ngrok" in a lowercase, sans-serif font. The background of the slide features abstract orange and yellow shapes in the corners.



05

Demo

[https://cda4-2001-b011-3805-1423-e57b-7eec-bb
cf-42d3.ngrok.io/](https://cda4-2001-b011-3805-1423-e57b-7eec-bb
cf-42d3.ngrok.io/)

—
06

Code & Preview

Register



Logout



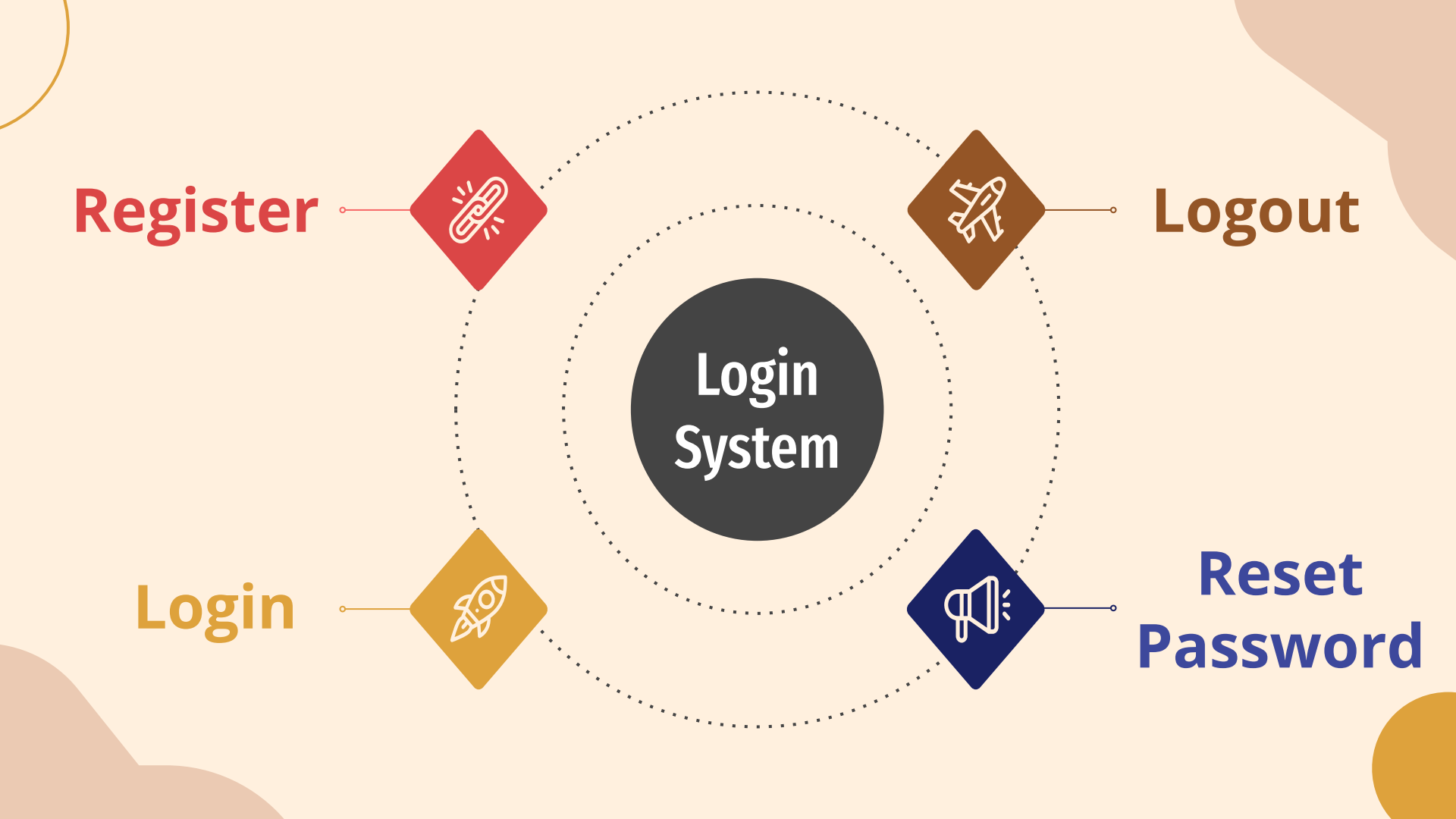
Login



**Reset
Password**



**Login
System**



Register

Sign Up

Username

Password



Confirm Password



Already have an account? [Login here.](#)

Register

```
// Attempt to execute the prepared statement
if(mysqli_stmt_execute($stmt)){
    /* store result */
    mysqli_stmt_store_result($stmt);

    if(mysqli_stmt_num_rows($stmt) == 1){
        $username_err = "This username is already taken.";
    } else{
        $username = trim($_POST["username"]);
    }
} else{
    echo "Oops! Something went wrong. Please try again later.";
}
```

```
// Validate password
if(empty(trim($_POST["password"]))) {
    $password_err = "Please enter a password.";
} elseif(strlen(trim($_POST["password"])) < 6){
    $password_err = "Password must have atleast 6 characters.";
} else{
    $password = trim($_POST["password"]);
}

// Validate confirm password
if(empty(trim($_POST["confirm_password"]))) {
    $confirm_password_err = "Please confirm password.";
} else{
    $confirm_password = trim($_POST["confirm_password"]);
    if(empty($password_err) && ($password != $confirm_password)){
        $confirm_password_err = "Password did not match.";
    }
}
}
```

```
// Set parameters
$params_username = $username;
$params_password = password_hash($password, PASSWORD_DEFAULT); // Creates a password hash

// Attempt to execute the prepared statement
if(mysqli_stmt_execute($stmt)){
    // Redirect to login page
    header("location: login.php");
} else{
    echo "Something went wrong. Please try again later.";
}
```

password_hash()

選項

← T →

▼

				id	username	password	created_at
<input type="checkbox"/>	 編輯	 複製	 刪除	1	kebwlm bhee	\$2y\$10\$Mqbzux95r3VTEF9nN1ld.OX0UBLU/IHmmdHmBY4A7r...	2022-01-09 09:59:17
<input type="checkbox"/>	 編輯	 複製	 刪除	2	123	\$2y\$10\$4/md2CJyHD/dTSNaUgCpt.0zuUATqPktCPlvFKSbTSg...	2022-01-09 20:42:00

↑

☐ 全選

已選擇項目：

 編輯

 複製

 刪除

 匯出

Login

Login

Username

Password



Login

Don't have an account? [Sign up now.](#)

Login

```
// Check if username exists, if yes then verify password
if(mysqli_stmt_num_rows($stmt) == 1){
    // Bind result variables
    mysqli_stmt_bind_result($stmt, $id, $username, $hashed_password);
    if(mysqli_stmt_fetch($stmt)){
        if(password_verify($password, $hashed_password)){
            // Password is correct, so start a new session
            session_start();

            // Store data in session variables
            $_SESSION["loggedin"] = true;
            $_SESSION["id"] = $id;
            $_SESSION["username"] = $username;

            // Redirect user to index page
            header("location: index.php");
        } else{
            // Display an error message if password is not valid
            $username_err = "Invalid Username or Password";
            $password_err = "Invalid Username or Password";
        }
    }
} else{
    // Display an error message if username doesn't exist
    $username_err = "Invalid Username or Password";
    $password_err = "Invalid Username or Password";
}
```

Logout

Hi, **kebwlmbhee**. Welcome !!

Page Redirect to [自動氣象站](#) After 10 Seconds

or click the link to jump directly

[Reset Your Password](#)

[Sign Out of Your Account](#)

Logout

```
<?php
// Initialize the session
session_start();

// Unset all of the session variables
$_SESSION = array();

// Destroy the session.
session_destroy();

// Redirect to login page
header("location: login.php");
exit;
?>
```

Reset Password

Reset Password

Username

kebwlmabee

New Password

Password



Confirm Password

Confirm Password



Submit

Cancel

Reset Password

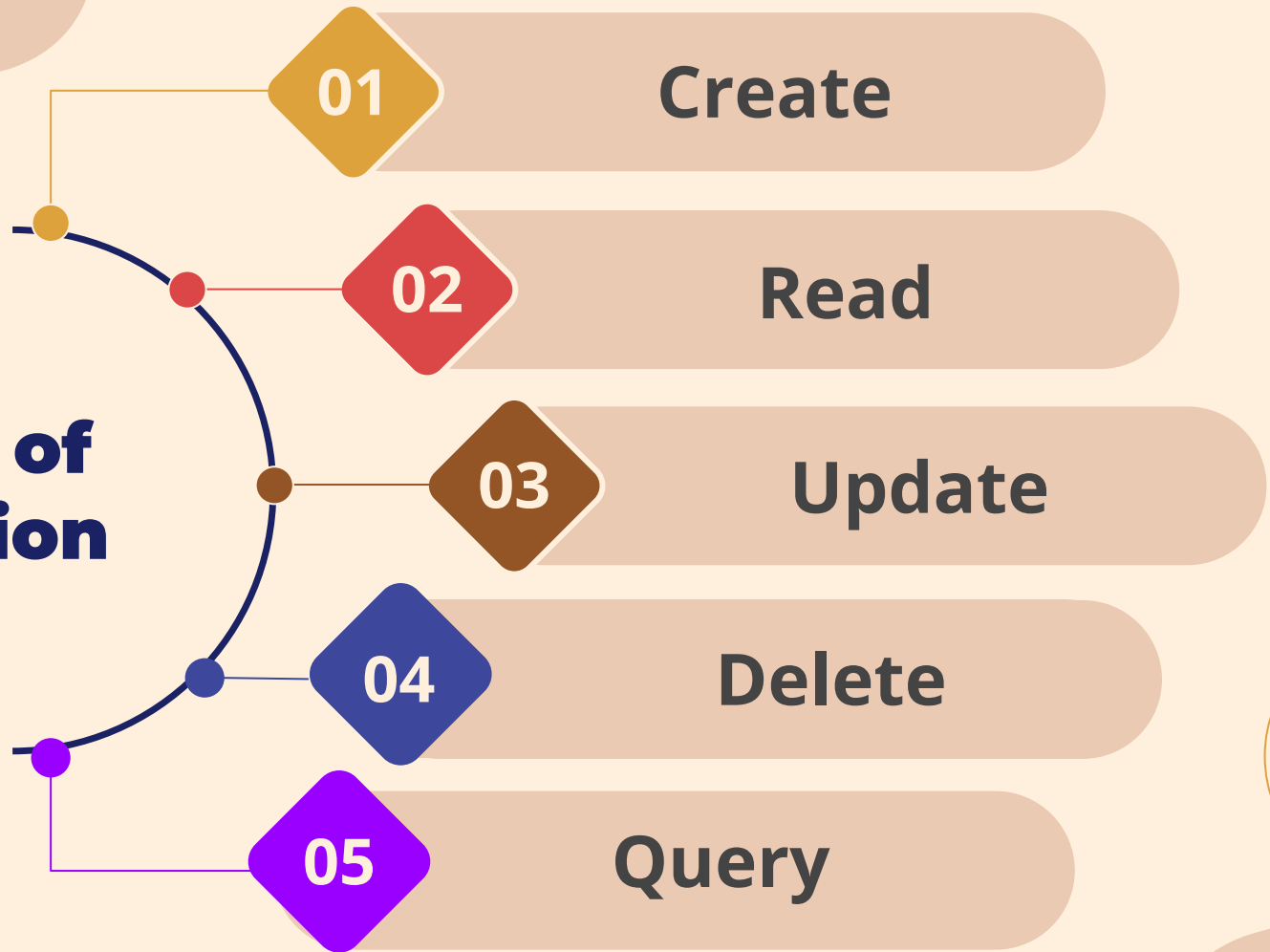
```
// Validate new password
if(empty(trim($_POST["new_password"]))) {
    $new_password_err = "Please enter the new password.";
} elseif(strlen(trim($_POST["new_password"])) < 6) {
    $new_password_err = "Password must have at least 6 characters.";
} else {
    $new_password = trim($_POST["new_password"]);
}


// Validate confirm password
if(empty(trim($_POST["confirm_password"]))) {
    $confirm_password_err = "Please confirm the password.";
} else {
    $confirm_password = trim($_POST["confirm_password"]);
    if(empty($new_password_err) && ($new_password != $confirm_password)) {
        $confirm_password_err = "Password did not match.";
    }
}
```

```
// Set parameters
$params_password = password_hash($new_password, PASSWORD_DEFAULT);
$params_id = $_SESSION["id"];

// Attempt to execute the prepared statement
if(mysqli_stmt_execute($stmt)) {
    // Password updated successfully. Destroy the session, and re-
    session_destroy();
    header("location: login.php");
    exit();
} else {
    echo "Oops! Something went wrong. Please try again later.";
}
```

Table of Function





01

Create

開發語言: php \ 工具: XAMPP

Create - php

```
if (isset($_POST["action"])&&($_POST['action']=="add")){ //check if null number
    if (!empty($_POST["City"]) && !empty($_POST["lon"])&& !empty($_POST["lat"]) &&
!empty($_POST["lonWGS84"]) && !empty($_POST["latWGS84"])
    && !empty($_POST["StationName"]) && !empty($_POST["StationID"]) && !empty($_POST["ELEV"]) &&
!empty($_POST["Temp"])
    && !empty($_POST["PRES"]) && !empty($_POST["D_TX"]) && !empty($_POST["D_TN"]) &&
!empty($_POST["H24R"]) && !empty($_POST["R_Date"])
    && !empty($_POST["CitySn"]) && !empty($_POST["Town"]) && !empty($_POST["TownSn"])){

        include("connectMysql.php");
```


Create - php

```
<?php
$db_host = '127.0.0.1';
$db_userName = 'root';
$db_password = '';
$db_name = 'database_project_自動氣象站';

$db_link = @mysqli_connect($db_host, $db_userName, $db_password, $db_name);
if (!$db_link) {
    die('connected failed');
} else {
    echo 'connected successfully!';
}

mysqli_query($db_link, "SET NAMES 'utf8mb4'");
?>
```

connectMysql.php

Create - XAMPP

```
$StationName= $_POST['StationName'];  
$StationID = $_POST['StationID']; ...
```

```
$sql_query = "INSERT INTO station (Lat, Lon, LatWGS84, LonWGS84, StationName, StationID, ELEV, S_City,  
S_Town)  
VALUES ('$lat', '$lon', '$latWGS84', '$lonWGS84', '$StationName', '$StationID', '$ELEV',  
'$City', '$Town')";
```

```
$sql_query2="INSERT INTO obsweather (ObsTime, WDIR, WDSD, Temp, HUMD, PRES, StationNum)  
VALUES ('$infoTime', '$WDIR', '$WDSD', '$Temp', '$HUMD', '$PRES', '$StationID')";  
...
```

```
mysqli_query($db_link,$sql_query);  
mysqli_query($db_link,$sql_query2);  
...
```

The background is a light beige color. It features several decorative elements: a large, solid gold circle in the top right corner; a thin gold line forming a partial circle on the left side; and several wavy, organic shapes in a light tan color at the top, bottom, and right edges.

02

Read

開發語言: php \ 工具: XAMPP

Read

Hi, kebwlmbee

自動氣象站

請選擇欲顯示的資料庫

目前資料筆數：139 [新](#)

datetime

- ✓ datetime
- location
- note
- obsweather
- record
- station

選擇要顯示的資料庫

InfoDate	InfoTime	
2021-12-12	2021-12-12 00:00:00	修改 刪除
2021-12-12	2021-12-12 01:00:00	修改 刪除
2021-12-12	2021-12-12 02:00:00	修改 刪除
2021-12-12	2021-12-12 03:00:00	修改 刪除
2021-12-12	2021-12-12 04:00:00	修改 刪除
2021-12-12	2021-12-12 05:00:00	修改 刪除
2021-12-12	2021-12-12 06:00:00	修改 刪除

Read

Hi, kebwlmbee

自動氣象站

請選擇欲顯示的資料庫: datetime ▼

目前資料筆數: 139 [新增資料](#) [Query](#)

datetime

InfoDate	InfoTime	
2021-12-12	2021-12-12 00:00:00	修改 刪除
2021-12-12	2021-12-12 01:00:00	修改 刪除
2021-12-12	2021-12-12 02:00:00	修改 刪除
2021-12-12	2021-12-12 03:00:00	修改 刪除
2021-12-12	2021-12-12 04:00:00	修改 刪除
2021-12-12	2021-12-12 05:00:00	修改 刪除
2021-12-12	2021-12-12 06:00:00	修改 刪除

從選擇的資料庫中讀取
所有資料並顯示

選擇後會顯示相應 DB 名稱

Read

Hi, kebwlmabee

自動氣象站

請選擇欲顯示的資料庫: datetime ▾

目前資料筆數: 139 [新增資料](#) [Query](#)

datetime

InfoDate	InfoTime	
2021-12-12	2021-12-12 00:00:00	修改 刪除
2021-12-12	2021-12-12 01:00:00	修改 刪除
2021-12-12	2021-12-12 02:00:00	修改 刪除
2021-12-12	2021-12-12 03:00:00	修改 刪除
2021-12-12	2021-12-12 04:00:00	修改 刪除
2021-12-12	2021-12-12 05:00:00	修改 刪除
2021-12-12	2021-12-12 06:00:00	修改 刪除

連結到Create、Query

連結到Update、Delete

Read - XAMPP

```
<form align = "center" action = "read.php" method="post">
  <!-- Removing warning -->
  <?php error_reporting(0); ?>

  請選擇欲顯示的資料庫:
  <select name="chosen_db" onchange = "this.form.submit();">
    <option value='datetime'
      <?php if($_POST['chosen_db']=='datetime') echo 'selected="selected"';?> > datetime </option>
    <option value='location'
      <?php if($_POST['chosen_db']=='location') echo 'selected="selected"';?> location </option>
    <option value='note'
      <?php if($_POST['chosen_db']=='note') echo 'selected="selected"';?> note </option>
    <option value='obsweather'
      <?php if($_POST['chosen_db']=='obsweather') echo 'selected="selected"';?> obsweather </option>
    <option value='record'
      <?php if($_POST['chosen_db']=='record') echo 'selected="selected"';?> record </option>
    <option value='station'
      <?php if($_POST['chosen_db']=='station') echo 'selected="selected"';?> station </option>
  </select>
</form>

<?php
  $db_name = isset($_POST["chosen_db"]) ? $_POST["chosen_db"] : 'datetime';
  $sql_query = "SELECT * FROM $db_name";
  $result = mysqli_query($db_link, $sql_query);
  $total_records = mysqli_num_rows($result);
?>
```

read.php

Read - XAMPP

```
echo "<tr>";
if($db_name == "datetime") {
    echo "<th> InfoDate </th>";
    echo "<th> InfoTime </th>";
    while($row_result = mysqli_fetch_assoc($result)) {
        echo "<tr>";
        echo "<td>".$row_result['InfoDate']. "</td>";
        echo "<td>".$row_result['InfoTime']. "</td>";
        echo "<td><a href='update.php'>修改</a> ";
        echo "<a href='delete.php' "
            . "chosen_db=datetime&InfoDate=$row_result[InfoDate] & InfoTime=$row_result[InfoTime]"
            . "'>删除</a></td>";

        echo "</tr>";
    }
}
```

read.php

03

Update

開發語言: php \ 工具: XAMPP

Update

train - Google 雲端硬碟

自動氣象站

Database_Project - Google 簡報

connected successfully!

Hi, kebwlmabee

自動氣象站

◆更新氣象資料：

請輸入縣市：

請輸入縣市編號：

請輸入鄉鎮：

請輸入鄉鎮編號：

請輸入經度(TWD67)：

請輸入緯度(TWD67)：

請輸入經度(WGS84)：

請輸入緯度(WGS84)：

請輸入測站名稱：

請輸入測站編號：

請輸入海拔高度(公尺)：

請輸入溫度：

請輸入測站氣壓：

請輸入本日最高溫：

請輸入本日最低溫：

請輸入日累積雨量：

請輸入日期時間：

請輸入相對溼度(%)：

請輸入風向：

請輸入風速：

請輸入小時最大陣風風速：

請輸入小時最大陣風風向：

更新資料

Update

```
<?php
# remove warning
error_reporting(0);

// Initialize the session
session_start();

// Check if the user is logged in, if not then redirect him to login page
if(!isset($_SESSION["loggedin"]) || $_SESSION["loggedin"] !== true){
    header("location: login.php");
    exit;
}

# check account permission
if($_SESSION["username"] == "kebwlmbee"){

?>
```

Update

```
if (isset($_POST['action']) && ($_POST['action'] == 'update')) { //check if null number
    if (!empty($_POST['City']) && !empty($_POST['lon']) && !empty($_POST['lat']) && !empty($_POST['lonWGS84']) && !empty($_POST['latWGS84'])
    && !empty($_POST['StationName']) && !empty($_POST['StationID']) && !empty($_POST['ELEV']) && !empty($_POST['Temp'])
    && !empty($_POST['PRES']) && !empty($_POST['D_TX']) && !empty($_POST['D_TN']) && !empty($_POST['H24R']) && !empty($_POST['R_Date'])
    && !empty($_POST['CitySn']) && !empty($_POST['Town']) && !empty($_POST['TownSn'])) {

        include "connMySQL.php";

        $StationName = $_POST['StationName'];
        $StationID = $_POST['StationID'];

        $infoTime = $_POST['R_Date'];

        $infoDate = $_POST['R_Date'];
        $date = strtotime($infoDate);
        $dateforSQL = date("Y-m-d", $date);

        $City = $_POST['City'];
        $CitySn = $_POST['CitySn'];
        $Town = $_POST['Town'];
        $TownSn = $_POST['TownSn'];
        $lon = $_POST['lon'];
        $lat = $_POST['lat'];
        $lonWGS84 = $_POST['lonWGS84'];
        $latWGS84 = $_POST['latWGS84'];
        $ELEV = $_POST['ELEV'];
        $Temp = $_POST['Temp'];
        $PRES = $_POST['PRES'];
        $D_TX = $_POST['D_TX'];
        $D_TN = $_POST['D_TN'];
        $H24R = $_POST['H24R'];

        $HUMD = $_POST['HUMD'];
        $WDIR = $_POST['WDIR'];
        $WDSO = $_POST['WDSO'];
        $H_FX = $_POST['H_FX'];
        $H_XD = $_POST['H_XD'];
    }
}
```

Update

ObsWeather

WDSD	Temp	HUMD	PRES	WDIR	<u>StationNum</u>	<u>ObsTime</u>
------	------	------	------	------	-------------------	----------------

Station

Lat	Lon	Lat WGS84	Lon WGS84	ELEV	City	Town	Station Name	<u>StationID</u>
-----	-----	--------------	--------------	------	------	------	-----------------	------------------

Location

CitySn	TownSn	<u>City</u>	<u>Town</u>
--------	--------	-------------	-------------

DateTime

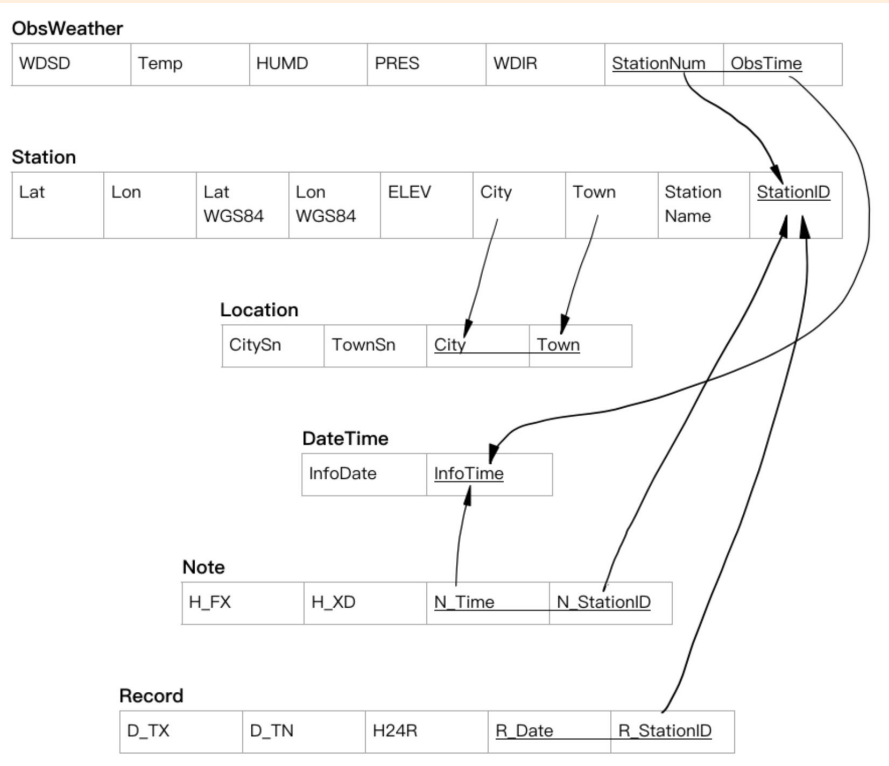
InfoDate	<u>InfoTime</u>
----------	-----------------

Note

H_FX	H_XD	<u>N_Time</u>	<u>N_StationID</u>
------	------	---------------	--------------------

Record

D_TX	D_TN	H24R	<u>R_Date</u>	<u>R_StationID</u>
------	------	------	---------------	--------------------



Update

```
$sql_query = "UPDATE station SET Lat = '$lat', Lon = '$lon', LatWGS84 = '$latWGS84', LonWGS84 = '$lonWGS84', StationName = '$StationName', ELEV  
$sql_query2 = "UPDATE obsweather SET WDIR = '$WDIR', WDSO = '$WDSO', Temp = '$Temp', HUMD = '$HUMD', PRES = '$PRES' WHERE StationNum = $StationNum";  
$sql_query3 = "UPDATE record SET D_TX = '$D_TX', D_TN = '$D_TN', H24R = '$H24R' WHERE R_StationID = $StationID && R_Date = $DateforSQL";  
$sql_query4 = "UPDATE note SET H_FX = '$H_FX', H_XD = '$H_XD' WHERE N_StationID = $StationID && N_Time = $infoTime ";  
$sql_query5 = "UPDATE location SET CitySn = '$CitySn', TownSn = '$TownSn' WHERE Town = $Town && City= $City";  
$sql_query6 = "UPDATE datetime SET infoTime = '$infoTime' WHERE infoDate = $DateforSQL";  
  
mysqli_query($db_link,$sql_query);  
mysqli_query($db_link,$sql_query2);  
mysqli_query($db_link,$sql_query3);  
mysqli_query($db_link,$sql_query4);  
mysqli_query($db_link,$sql_query5);  
mysqli_query($db_link,$sql_query6);  
  
$db_link->close();
```



04

Delete

開發語言: php \ 工具: XAMPP

Delete

自動氣象站

請選擇欲顯示的資料庫:

目前資料筆數: 442 [新增資料](#) [Query](#)

station

Lat	Lon	LatWGS84	LonWGS84	StationID	StationName	ELEV	S_City	S_Town	
24.9767	121.394	24.9749	121.402	C0A520	山佳	48	新北市	樹林區	修改 刪除
24.94	121.702	24.9382	121.71	C0A530	坪林	300	新北市	坪林區	修改 刪除
24.8944	121.738	24.8926	121.746	C0A540	四堵	401	新北市	坪林區	修改 刪除
24.9731	121.815	24.9712	121.824	C0A550	泰平	422	新北市	雙溪區	修改 刪除
24.7783	121.495	24.7762	121.503	C0A560	福山	405	新北市	烏來區	修改 刪除
24.8501	121.59	24.8482	121.598	C0A570	桶後	360	新北市	烏來區	修改 刪除
24.9958	121.655	24.994	121.663	C0A640	石碇	241	新北市	石碇區	修改 刪除
25.0044	121.735	25.0027	121.743	C0A650	火燒寮	287	新北市	平溪區	修改 刪除
25.1149	121.793	25.1132	121.801	C0A660	瑞芳	97	新北市	瑞芳區	修改 刪除

刪除失敗:

不能刪除此資料因為weather note record 這些表格參考到此資料

[回到上一頁](#)

刪除成功:

已刪除下列資料:

[回到上一頁](#)

ObsTime	WDIR	WDSD	Temp	HUMD	PRES	StationNum
2021-12-12 00:00:00	0	0	16.8	0.96	1008.8	C0A660

Delete

```

else if($db_name == "record"){
    echo "<th> D_TX </th>";
    echo "<th> D_TN </th>";
    echo "<th> H24R </th>";
    echo "<th> R_Date </th>";
    echo "<th> R_StationID </th>";
    while($row_result = mysqli_fetch_assoc($result)) {
        echo "<tr>";
        echo "<td>".$row_result['D_TX']. "</td>";
        echo "<td>".$row_result['D_TN']. "</td>";
        echo "<td>".$row_result['H24R']. "</td>";
        echo "<td>".$row_result['R_Date']. "</td>";
        echo "<td>".$row_result['R_StationID']. "</td>";
        echo "<td><a href='update.php'>修改</a> ";
        echo "<a href='delete.php?'";
        .....>"chosen_db=record & D_TX=$row_result[D_TX] & D_TN=$row_result[D_TN]&"
        .....>"H24R=$row_result[H24R] & R_Date=$row_result[R_Date] & R_StationID=$row_result[R_StationID]"
        .....>">刪除</a></td>";
        echo "</tr>";
    }
}

```

localhost/delete.php?chosen_db=record & D_TX=20.4 & D_TN=14.8&H24R=0.5 & R_Date=2021-12-18 & R_StationID=C0A520

Delete.php

```
//從Session抓資料存到變數上
$City=$_REQUEST["City"];
$CitySn=$_REQUEST["CitySn"];
$Town=$_REQUEST["Town"];
$TownSn=$_REQUEST["TownSn"];
```

```
//mysql 的 query 字串
$sql_query="Select * From `location`
          Where City like ' ".$City."' and CitySn like " ".$CitySn." and Town like ' "
          ".$Town."' and TownSn like " ".$TownSn";
$delete_query="Delete From `location`
          Where City like ' ".$City."' and CitySn like " ".$CitySn." and Town like ' "
          ".$Town."' and TownSn like " ".$TownSn";
$locationJoinStation="SELECT * FROM location,station
                    where location.City=station.S_City and location.Town=station.S_Town
                    and location.City='".$City."' and location.Town='".$Town."";
//參考到此表格的foreign key數目
$num_fkstation=mysqli_num_rows(mysqli_query($db_link,$locationJoinStation));
```

```
if($num_fkstation>0){
    echo "不能刪除資料因為station表格參考到此資料<br>";
}
else{
    $result = mysqli_query( $db_link, $sql_query);
    if($db_link->query($sql_query) == TRUE){
        //如果欄位數目>0 (找到資料)，刪除資料；否則印出訊息。
        if(mysqli_num_rows($result)!=0){
            echo "已刪除下列資料:<br>";
            echo '<table border="1" align = "left" >';
            <tr>
                <th>City</th>
                <th>Citysn</th>
                <th>Town</th>
                <th>Townsn</th>
            </tr>';
            while($row_result = mysqli_fetch_array($result)) {
                echo "<tr>";
                for($i=0;$i<mysqli_num_fields($result);$i++){
                    echo "<td>".$row_result[$i]."</td>";
                    echo "</tr>";
                }
                mysqli_query($db_link,$delete_query);
            }
        }
        else{
            echo "要刪除的資料不在此表格中!";
        }
    }
}
```



05


Query

開發語言: php \ 工具: XAMPP

Query



自動氣象站查詢平台

◆查詢某地點的氣象情況（最高低溫度、濕度、下雨情況）：

請輸入日期： 

請選擇地點： 

◆查詢某地點的降水量、下雨天數：

請輸入時段：  至 

請選擇地點： 

Query

自動氣象站查詢平台

★查詢某地點的氣象情況（最高低溫度、濕度、下雨情況）：

請輸入日期： 年 / 月 / 日

請選擇地點：選擇縣市 搜尋

★查詢某地點的降水量、下雨天數：

請輸入時段： 年 / 月 / 日 至 年 / 月 / 日

請選擇地點：選擇縣市 搜尋

桃園市 2021-12-15

鄉鎮	最高溫度 (C)	最低溫度 (C)	平均溫度 (C)	相對濕度 (%)	氣壓 (hPa)	風速 (m/s)
中壢區	24	16.7	20.96	0.72	999.93	0.92
八德區	25.4	16.8	20.78	0.73	998.52	0.37
大園區	26.6	16.6	21.01	0.80	1011.59	0.57
大溪區	25.4	15	19.64	0.78	997.09	0.82
平鎮區	24.2	16.3	20.37	0.73	992.82	0.53
復興區	24.2	16.4	19.50	0.64	963.42	0.41
桃園區	24.1	16.9	21.13	0.78	1005.15	0.11
楊梅區	24.6	16.8	20.33	0.79	996.92	0.68
蘆竹區	25.2	16.6	20.27	0.83	1013.88	0.63
觀音區	26.6	16.6	20.37	0.84	1008.48	0.59
龍潭區	23.6	15.8	19.93	0.71	989.08	0.79
龜山區	21.9	15.4	21.10	0.73	988.93	1.30

```
$sql_query = "SELECT s_city, s_town, MAX(d_tx) as highest, MIN(d_tn) as lowest,
                    AVG(temp), AVG(humd), AVG(pres), AVG(wdsd)
FROM obsweather as obs, station as sta, record as rec
where date(obs.obstime) = '$infoDate'
      AND date(obs.obstime) = rec.r_date
      AND obs.stationnum = sta.stationid
      AND rec.r_stationid = sta.stationid
      AND sta.s_city = '$City'
GROUP BY s_city, s_town
ORDER BY s_town";
```

Query

自動氣象站查詢平台

◆查詢某地點的氣象情況（最高低溫度、濕度、下雨情況）：

請輸入日期：年 / 月 / 日

請選擇地點：選擇縣市 搜尋

◆查詢某地點的降水量、下雨天數：

請輸入時段：年 / 月 / 日 至 年 / 月 / 日

請選擇地點：選擇縣市 搜尋

花蓮縣 2021-12-13 到 2021-12-16		
鄉鎮	降水量 (mm)	下雨天數 (天)
光復鄉	12	2
卓溪鄉	23.5	2
吉安鄉	1	1
壽豐鄉	14.5	3
富里鄉	3	1
玉里鎮	25.5	3
瑞穗鄉	12	2
秀林鄉	8	2
萬榮鄉	9	2
豐濱鄉	30	3
鳳林鎮	21	3

```
$sql_query2 = "SELECT t1.s_city, t1.s_town as s_town , sum as amount, raining_days
FROM (SELECT s1.s_city, s1.s_town, SUM(h24r) as sum
      FROM record as r1, station as s1
      WHERE (r1.r_date BETWEEN '$infoDate2' AND '$infoDate3')
            AND s1.s_city = '$City2'
            AND s1.stationid = r1.r_stationid
            AND r1.h24r != 0
      GROUP BY s1.s_city, s1.s_town) as t1,
(SELECT s2.s_city, s2.s_town, COUNT(DISTINCT(r2.r_date)) as raining_days
 FROM record as r2, station as s2
 WHERE (r2.r_date BETWEEN '$infoDate2' AND '$infoDate3')
       AND s2.s_city = '$City2'
       AND s2.stationid = r2.r_stationid
       AND r2.h24r != 0
      GROUP BY s2.s_city, s2.s_town) as t2
WHERE t1.s_town = t2.s_town";
```

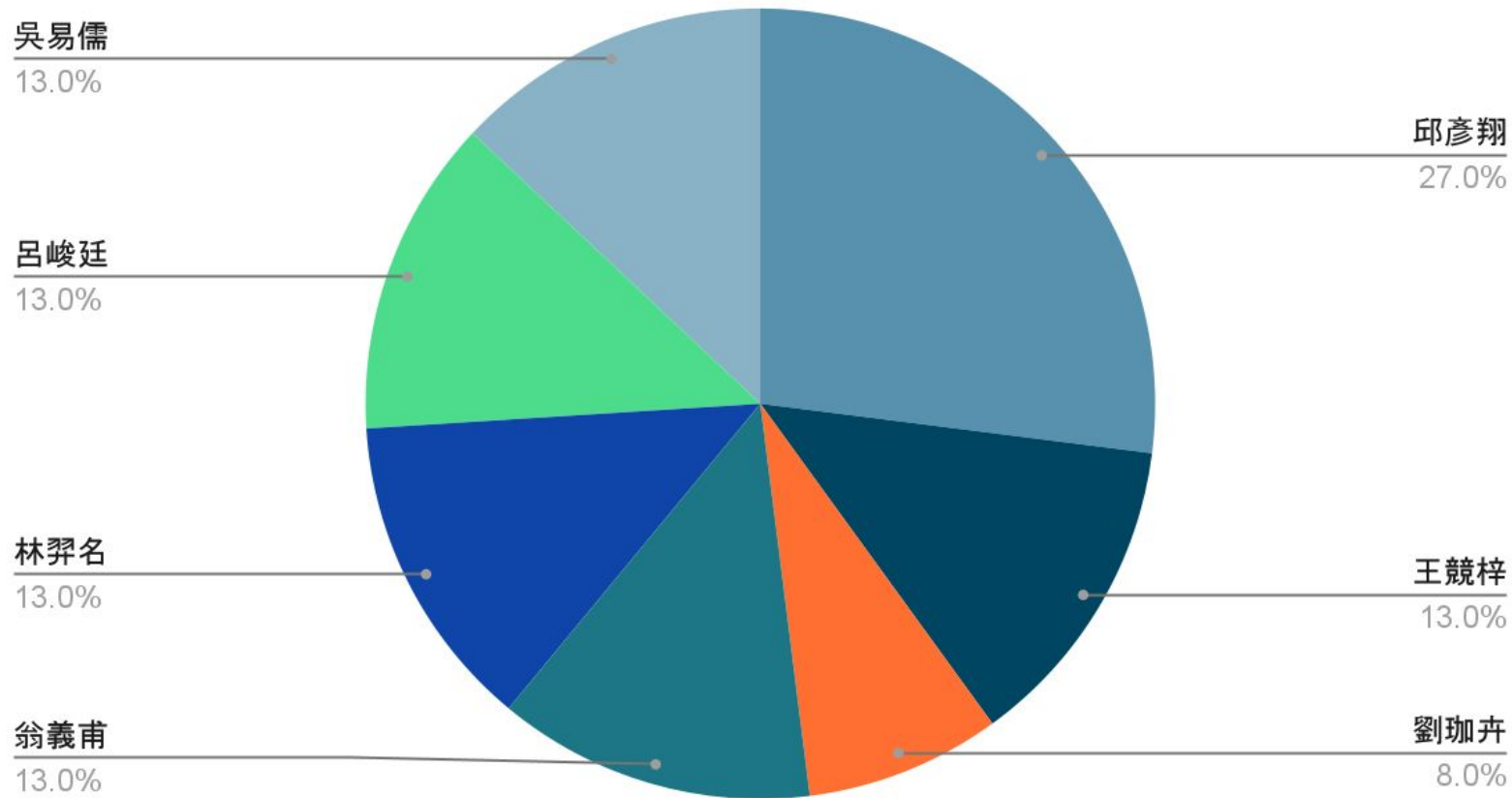
07

Division of Labor & Challenge

Division of Labor

資科三 108703017 邱彥翔	Leader + Login System + 整合 + Presentation
資科三 108703028 王競梓	ER model + Relational model + SQL schema
科智三 108364124 劉珈卉	CRUD 之 UPDATE + PPT
資科四 107703041 翁義甫	Query + PPT
資科四 107703007 林羿名	CRUD 之 DELETE + PPT
資科四 106701037 呂峻廷	CRUD 之 READ + PPT
企管四 107305111 吳易儒	CRUD 之 CREATE + PPT

Degree of Contribution



Challenge

為了讓外網能連進區網，花很多時間在嘗試 Port Forwarding

Create: 很常出現連結資料庫不正確的問題，後來發現是資料庫 attributes 設定與 code 的名稱不對、以及 primary key 的設定問題

Query: 花很多時間在了解 php 的語法以及跟 MySQL 的關係



Q & A