**What The Snake**

A relational database and web interface for managing venomous snake data.

**Overview**

**What The Snake** is a themed database-backed web application designed to manage biological data on venomous snakes. It integrates a MySQL backend with PHP, AJAX, and custom HTML/CSS to provide full CRUD functionality, statistical analysis using SQL window functions, secure login control, and real-time AJAX updates.

**Features**

* Add new snakes with full biological and venom data
* Upload and display images per species
* View snakes in a formatted, read-only card layout
* Edit and delete snakes using a live AJAX interface
* Analyze data using SQL Window Functions and transactions
* Login/logout with role-based access control
* Custom aesthetic with background art and typography

**Tech Stack**

* PHP 8+
* MySQL
* HTML5 and CSS3
* JavaScript (AJAX)
* Google Fonts (Linden Hill)
* Hosted via XAMPP on localhost

**File Structure**

/what\_the\_snake/

├── index.php # Dashboard landing page

├── login.php # Manager login form

├── logout.php # Ends session and clears login

├── snake\_add.html # Web form to submit new snake

├── snake\_view.php # Public read-only view of snakes

├── ajax\_snake.php # Editable AJAX interface (manager only)

├── snake\_crud.php # PHP logic for insert, update, delete

├── statisicis\_windows\_.php # SQL statistics and window function display

├── ajax\_snake.js # AJAX request handlers

├── style.css # Project styling (Art Nouveau inspired)

├── /images/ # Uploaded snake images

└── README.md # Project documentation

**Login Credentials**

| Role | Username | Password | Permissions |
| --- | --- | --- | --- |
| Manager | ccommander | hailcobra! | Full CRUD access |
| Read-Only | duke | yojoe! | Select-only |

**SQL Features Demonstrated**

**Transaction Safety**

START TRANSACTION;

UPDATE venom\_yield SET dryweight\_mg = dryweight\_mg - 5 WHERE species\_id = 1;

ROLLBACK;

**Window Functions**

SELECT s.binomial, v.dryweight\_mg,

LAG(v.dryweight\_mg) OVER (ORDER BY s.binomial) AS prev,

LEAD(v.dryweight\_mg) OVER (ORDER BY s.binomial) AS next

FROM species s

JOIN venom\_yield v ON s.species\_id = v.species\_id;

**Running Totals by Family**

SELECT s.family, s.binomial, v.dryweight\_mg,

SUM(v.dryweight\_mg) OVER (PARTITION BY s.family ORDER BY s.binomial) AS running\_total

FROM species s

JOIN venom\_yield v ON s.species\_id = v.species\_id;

**How to Run Locally**

1. Start Apache and MySQL in XAMPP
2. Place the project folder inside htdocs
3. In a browser, go to http://localhost/what\_the\_snake/
4. Use the login form at login.php for manager access or continue as a viewer

**Image Upload Details**

* Images are uploaded via snake\_add.html
* Files are stored in the /images/ directory
* Paths are saved into the images table for display in snake\_view.php

**Description**

This project was developed as a themed exercise in database design, SQL analytics, web-based interfaces, and secure user management. It combines multiple tables linked by foreign keys and includes features often used in scientific data management, such as image handling, real-time editing, and windowed analytics.

**References**

**Venom and biological data:**

* [SnakeDB.org](https://snakedb.org/pages/index.php)  
  Data hosted and maintained by Sascha Steinhoff. Used for species names, venom yield metrics (dry/wet), and binomial classifications.

**Descriptions, habitats, and ecology:**

* [Wikipedia](https://www.wikipedia.org/)  
  Used for general species background, regional distribution, and environmental context.

**Snake images:**

* [Wikimedia Commons](https://commons.wikimedia.org/)  
  Public domain and Creative Commons licensed snake images used for visual display.
* [iNaturalist](https://www.inaturalist.org/)  
  Supplementary image sourcing and regional reference for biological accuracy.

Absolutely — here’s how to professionally reference both ChatGPT assistance and your in-class materials in the README without sounding over-reliant or informal.

**Development Notes**

This project was built using knowledge and assignments from the **Database Fundamentals** course, including concepts and example code provided during lectures, labs, and in-class exercises. All core logic was adapted and extended to fit the project scope and theme.

Some code troubleshooting, formatting, and integration guidance was supported using **ChatGPT** as a learning assistant during the development process. All logic and decisions were reviewed and implemented by the project author.