

# BIMS - CS 490 Capstone Fall 2021

## Project Directory and File Structure

This guide is meant to serve as a reference for project directory and file structure, including file descriptions and other general information.

*NOTE: The BIMS web application is an ongoing project still in development.*

### Directory/File Structure

The project directory, `/opt/lampp/htdocs/BIMS`, contains the following top-level folders and files:

1. `admin` : Contains all files specifically related the *admin* role (admin screens, javascript, and php scripts)
2. `API` : Contains files for the RESTful API used with the mobile application
3. `assets` : Contains all image, pdf, 3D model, and custom CSS assets
4. `guides` : Contains all markdown guides related to this project (like this one)
5. `img` : Contains image files used throughout the web application
6. `inspector` : Contains all files specifically related the *inspector* role (inspector screens, javascript, and php scripts)
7. `plugins` : Contains all third-party plugins/libraries (examples: Chart JS, DataTables, Bootstrap)
8. `SQL_localhost` : Contains all SQL files for use in local development, including database seed (dump) file, *BIMSdb.sql*, all stored procedure definitions, *Procedures.sql*, and the entity-relationship-diagram for the database
9. `SQL_marshallcsee` : Contains all SQL files used in deployment to marshallcsee server, including database seed (dump) file, *BIMSdb.sql*, and all stored procedure definitions, *Procedures.sql* (the server required special changes to the SQL for deployment)
10. `supervisor` : Contains all files specifically related the *supervisor* role (supervisor screens, javascript, and php scripts)
11. `uploads` : Contains all images uploaded from the mobile application
12. *access-denied.php*: Shows "Access Denied" message upon attempting to access pages/files that are forbidden based upon user role privileges
13. *dbConfig.inc.php*: Database configuration file
14. *login.html*: Login screen
15. *verify-user.php*: php script for login process

Sub-folder and file descriptions for all top-level folders:

#### admin

- All files contained in `admin` are html template files for the admin role. With the exception of modifying *hrefs* for linking to the new additions the the web app, these files were not modified in any way for the Fall 2021 BIMS capstone project.

#### API

- *create-image-set.php* : php script that handles image set creation in the database when images are being uploaded.
- *upload-image.php* : php script for uploading images from mobile app to database

#### assets

- `css` (sub-folder): Contains *custom.css*
- Inspection report PDF files
- 3D model files (file extension *.glb*)

#### guides

- *Database Documentation*: developer markdown file that provides important documentation, notes, and references regarding the BIMS database
- *LocalEnvironmentSetup*: developer markdown guide for setting up the local development environment
- *MobileApp&RESTfulAPI*: developer markdown guide of the BIMS mobile application and RESTful API for mobile app communication with server
- *ProjectDirectoryFileStructure*: this file - an outline of the project file structure
- *WebAppDeployment*: developer markdown guide for deployment on the *marshallcsee* server
- *WebAppDeveloperGuide*: developer markdown guide for supervisor report management features, Yearly Inspection Report Tool and Longitudinal Analysis Tool

#### inspector

- All files contained in `inspector` are html template files for the inspector role. With the exception of modifying *hrefs* for linking to the new additions the the web app, these files were not modified in any way for the Fall 2021 BIMS capstone project.

#### plugins

- `chart.js` (sub-folder): Contains all files related to the Chart JS plugin, which is used to generate pie charts and line charts within the BIMS web application
- `css` (sub-folder): Contains all CSS files related to any third-party styling libraries, such as Bootstrap
- `DataTables` (sub-folder): contains all files related to the DataTables plugin, which is used to generate the data tables throughout the BIMS web application.
- `js` (sub-folder): contains JavaScript files related to plugins/libraries, including Bootstrap and jQuery
- `yearpicker` (sub-folder): contains all files related to the yearpicker plugin

#### SQL\_localhost

- *BIMS\_ERD.mwb*: MySQL Workbench Document containing the ERD model of the BIMS database. This file is included because working with ERD models is much better in MySQL Workbench than in phpMyAdmin.
- *BIMS\_ERD.png*: The BIMS database ERD as an image
- *BIMS\_ERD.svg*: The BIMS database ERD as an image
- *BIMSdb.sql*: seed (dump) file for the BIMS database. Running this script will build the database structure and fill it with test data. This script should not be

used to create a database on the *marshallcsee* server (see folder `SQL_marshallcsee` )

- *Procedures.sql*: script to create all stored procedures. Running this script will create all stored procedures in the database. This script should not be used to create procedures on the *marshallcsee* server (see folder `SQL_marshallcsee` )

#### `SQL_marshallcsee`

- *BIMSDb.sql*: seed (dump) file for the BIMS database for use on the \*marshallcsee server. Running this script will build the database structure and fill it with test data.
- *Procedures.sql*: script to create all stored procedures on the *marshallcsee* server. Running this script will create all stored procedures in the database.

#### `supervisor`

- *LA-functions.js*: Contains JavaScript function definitions related to the Longitudinal Analysis Tool.
  - `php-scripts-longitudinal-analysis` (sub-folder): contains all php scripts used for fetching data for the Longitudinal Analysis Tool
    - *load-bridge-data.php*: Performs a database query that selects the name, number, and county for all bridges in the database
    - *load-earliest-year.php*: Calls the stored procedure, *getEarliestYear*, to get the earliest inspection year from among selected bridges
    - *load-inspections.php*: Calls the stored procedure, *selectBridgeInspectionData\_BetweenYears*, to select all inspection data between the selected begin and end year for a single bridge
    - *reset-session-longitudinal-analysis.php*: Unsets all php session variables related to longitudinal analysis. Runs when user chooses to perform a new longitudinal analysis during the same session
    - *set-bridge-session-vars.php*: sets session variables for selected bridges to be analyzed in longitudinal analysis
    - *set-years-session-vars.php*: sets session variables for selected begin year and end year for the longitudinal analysis timeframe
  - `php-scripts-yearly-inspection-report` (sub-folder): contains all php scripts used for fetching data for the Longitudinal Analysis Tool
    - *YIR-load-bridge-data.php*: Calls the stored procedure, *selectNewestInspectionData\_ByYear*, to select the newest inspection data for every bridge for the selected year
    - *YIR-update-session.php*: Updates the selected year session variable
  - *supervisor-longitudinal-analysis.php*: Screen for the Longitudinal Analysis report. Contains HTML template and embedded JavaScript and PHP.
  - *supervisor-LA-params.php*: Screen for searching for and selecting bridges and timeframe parameters for the Longitudinal Analysis report. Contains HTML template and embedded JavaScript and PHP.
  - *supervisor-yearly-inspection-report.php*: Screen for the Yearly Inspection Report Tool. Contains HTML template and embedded JavaScript and PHP.
-