

# Running Time Sync Plus (TS+) Locally

This document outlines how to run the **Time Sync Plus Online (TS+) application locally** — not as a public-facing web service.

TS+ is a browser-based application that uses **PHP** to interact with a local SQLite database. You'll also need some JavaScript dependencies, which are already included in the repository. However, installation instructions for **Node.js** and related tooling are included below in case you wish to update or build the UI.

## Prerequisites

### 1. Install Git

Git is required to access the github repo for the following command alternatively you can download a zip repo directory from GitHub.

**On Ubuntu/Debian:**

```
sudo apt install git
```

### 2. Install PHP

PHP is required to run the local server and handle database read/write operations.

**On Ubuntu/Debian:**

```
sudo apt install php
```

PHP 7.4+ is recommended. You can verify your installation with `php -v`.

### 3. (Optional) Install Node.js and JavaScript Packages

Most JavaScript dependencies are already included in the repository. However, if you want to rebuild assets or manage JavaScript modules:

```
sudo apt install nodejs npm
```

```
npm install
```

This step is optional for most users running TS+ locally.

# Connecting Your Data

Once your database and Tile Mapping Service (TMS) have been created, it's time to plug them into the application.

## 1. Update Hardcoded File Paths in `index.html`

At the top of the `index.html` file, you'll find a JavaScript block that defines two key file paths:

```
db_path = "/vol/v1/TSP0/data/" + projectName + "/db/" + dataName  
+ ".db";
```

```
tilePath = "/vol/v1/TSP0/data/" + projectName + "/tms";
```

These paths are dynamically constructed from URL parameters (`projectName` and `dataName`) passed in the browser. You do **not** need to modify these lines unless your directory structure is different.

⚠ If you're not using URL parameters, you'll need to manually update these paths to point to your database and TMS folders.

## 2. Directory Layout Expectations

The TS+ application expects a `data/` folder in your project root containing your imagery and database. Example structure:

```
project_root/  
├─ index.html  
├─ data/  
│   └─ tspo_expo/  
│       └─ db/  
│           └─ tspo_expo.db  
│           └─ tms/  
│               └─ rgb654/  
│                   └─ 1995/
```

## Running the Local PHP Server

To launch the TS+ application locally:

```
cd /path/to/your/project/  
php -S localhost:8000
```

Then open your browser and navigate to:

```
http://localhost:8000/?para=<projectName>:<dataName>
```

### Example:

```
http://localhost:8000/?para=tspo_expo:tspo_expo
```

This URL passes `projectName` and `dataName` to the application so it knows which SQLite database and TMS folder to load.

## What to Expect

Once the application loads successfully, you should see:

- The **TS+ interface layout**
- A list of numbered plot buttons in the **Plots panel (left sidebar)**

If you do **not** see any plots:

- Double-check that your `?para=...` values are correct
- Make sure the file paths inside `index.html` point to valid data
- Ensure your TMS and database files are in the expected folders

## Learn More

For details on how to interpret imagery, navigate the interface, or perform plot attribution, refer to the [TS+ User Guide](#)