

build.rs — Protobuf Compilation

The build script runs before the Rust compiler and is responsible for compiling all `.proto` files into Rust code. It does this in several steps:

1. Collect proto files Recursively scans the `src-tauri/proto/` directory for `.proto` files. Only files that are inside a `components/` subdirectory are included — this is a deliberate filter to exclude top-level or organisational proto files.

2. Patch proto files Each `.proto` file is copied to inside `src-tauri/generated_proto` and patched to inject `package_packets;` after the line `syntax = "proto3";`. This ensures all generated types end up in a single `packets` Rust module, regardless of how the source `.proto` files are organised. The patching is idempotent — it won't inject the package line twice if it is already present.

This means that the basestation **protobuffers are** slightly **different** from the ones embedded and jonny boi (the jestson) uses. Keep this in mind for debugging

3. Compile

- Using **prost** for backend. The patched files are compiled for backend (stored in `src-tauri/target/debug/build/base_station-0f99f7e026ffb091/out/packages.rs`) using `prost_build`. A `type` attribute is applied globally:

```
config.type_attribute(".", "#[derive(serde::Serialize)]");
```

- Using the plugin **protoc-gen-ts** for frontend. The patched files are compiled for frontend (stored in `src/lib/proto`)

This means every generated message struct and enum automatically derives `serde::Serialize`, so they can be passed directly as Tauri event payloads without any manual wrapper types.

4. protoc The `protoc` compiler binary is sourced from `protoc-bin-vendored`, so no system installation of `protoc` is required.

If you add new `.proto` files, place them inside a `components/` subdirectory under `src-tauri/proto/` and they will be picked up automatically on the next build.

If you add new protobuffers you must explicitly commit and push them into the github submodule, they will **NOT** sync automatically when you sync the repo.

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