

.piooc file

Introduction

The `platformio.piooc` file is the central configuration file used to define build environments, dependencies, compiler flags, and project structure. It uses a format with sections and key-value pairs. It is similar to `platformio.ini`, which is actually used by `platformio`, but has some changes to use it easily with our project. For more information, read [Simple PIOC](#).

File Structure

The configuration is divided into sections such as `[platformio]`, `[env]`, and environment-specific sections like `[env:network_board]`.

Core Sections

[platformio]

Defines global project settings.

- `default_envs`: Default environment(s) to build.
- `src_dir`: Source directory.
- `lib_dir`: Library directory.

[extra]

Custom user-defined variables for reuse.

[env]

Base configuration shared across all environments.

Environment Sections

Each `[env:<name>]` defines a specific build target. These inherit from `[env]`.

Custom Enhancements

1. Glob Patterns in `build_flags`

Unlike standard PlatformIO, this configuration allows glob-style include/exclude patterns directly in `build_flags` using `+<...>` and `-<...>` syntax.

```
build_flags=  
  +<components/network_board/**>  
  -<components/network_board/firmware/Drivers/**>
```

This enables fine-grained control over which directories are included in compilation.

2. Absolute Path Variable

The variable `${{project_absolute_path}}` expands to the absolute path of the project root.

```
custom_nanopb_project_dir = ${{project_absolute_path}}/ERC-Protobufs
```

Source Filtering

`build_src_filter` defines which source files are compiled. It supports inclusion (+) and exclusion (-) rules.

```
+<src/${this.__env__}/**/*.*c>  
-<components/${this.__env__}/firmware/Drivers/*>
```

Variable Substitution

- `#{extra.common_lib_deps}`: Reference shared variables.
- `#{this.__env__}`: Current environment name.

Library Dependencies

External libraries can be defined using Git URLs or registry references.

```
lib_deps = https://github.com/nanopb/nanopb.git#commit
```

Compiler and Linker Flags

Standard compiler flags are also supported alongside glob patterns.

```
-mthumb  
-mfpv4-sp-d16  
-D CONFIG_LOG_LEVEL=LOG_INFO
```

Example Configuration

```
[env:network_board]  
board = nucleo_h753zi  
build_flags=  
    +<components/network_board/**>  
    -<components/network_board/firmware/Drivers/**>
```

```
-mthumb
```

```
-D CONFIG_LOG_LEVEL=LOG_INFO
```

Compilation

To use the file, you have to convert it to a `platformio.ini` file. You can do that by running

```
python3 simple_pioc.py
```

Extra information

If more information is needed, look at the documentation specifically for `platformio.ini` files. You can find it [here](#).

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