**VSCode support files**

**1. c\_cpp\_properties.json (For IntelliSense and Compiler Configuration)**

This file configures **IntelliSense, compiler paths, and standard versions** for different platforms.

**Purpose**: Provides proper code navigation, syntax highlighting, and IntelliSense support in **VS Code**.

**Key configurations:**

* **Linux Configuration**:
  + "compilerPath": "/usr/bin/g++" → Uses the default Linux g++ compiler.
  + "includePath": ["/usr/include", "/usr/local/include"] → Adds system include paths for dependencies.
  + "cStandard": "c11", "cppStandard": "c++17" → Ensures the project follows C11 and C++17 standards.
  + "intelliSenseMode": "linux-gcc-x64" → Configures IntelliSense to use the GCC toolchain on Linux.
* **Windows Configuration**:
  + "compilerPath": "C:/gcc/bin/g++.exe" → Uses g++.exe from MinGW.
  + "includePath": [...] → Specifies paths for MinGW's headers (C:/gcc/include).
  + "defines": ["\_WIN32", "WIN32\_LEAN\_AND\_MEAN"] → Defines preprocessor macros for Windows compilation.

**2. launch.json (For Debugging Configuration)**

This file defines how VS Code **launches the program for debugging**.

**Purpose**: Configures how to launch and debug your **server program** inside VS Code.

**Key configurations:**

* "name": "Debug (Windows)" → Configures a debug session for Windows.
* "type": "cppdbg" → Uses the VS Code **C++ Debugger** extension.
* "program": "${workspaceFolder}/server.exe" → Specifies the compiled output to debug.
* "cwd": "${workspaceFolder}" → Sets the working directory.
* "externalConsole": true → Launches an external terminal instead of the VS Code terminal.
* "MIMode": "gdb" → Uses **GDB** (GNU Debugger).
* "preLaunchTask": "Build with Makefile" → Ensures the project is **built before debugging**.

**3. tasks.json (For Build Automation)**

This file defines **build tasks** for **compiling** your project.

**Purpose**: Automates **building**, **cleaning**, and **compiling** tasks in **VS Code**.

**Key tasks:**

* **"Build with Makefile"**:
  + "command": "C:/gcc/bin/mingw32-make" → Runs **MinGW Make** (mingw32-make) to compile using the provided Makefile.
* **"Clean"**:
  + Runs mingw32-make clean to **remove old binaries**.
* **"C/C++: g++.exe build active file"**:
  + Directly compiles a **single file** using g++.exe.