

Pascal installation Manual

To compile and run Pascal code in Visual Studio Code (VS Code), you'll need to set up the environment by installing a Pascal compiler and configuring it to work with VS Code. Here's how you can do it:

Step 1: Install Free Pascal (FPC)

Free Pascal (FPC) is an open-source Pascal compiler that works well with VS Code.

1. Download Free Pascal:

- Visit the [Free Pascal download page](<https://www.freepascal.org/download.html>) and choose the version for your operating system (Windows, macOS, or Linux).
- Install the downloaded package and make sure the path to `fpc` is added to your system's environment variables (usually done automatically during installation).

- To verify if Free Pascal is installed correctly, open a terminal or command prompt and type:

```
bash
```

```
fpc -v
```

This should print the version of Free Pascal installed.

Step 2: Install VS Code and Required Extensions

1. Install Visual Studio Code:

- If you don't already have it, download and install VS Code from the [official site](<https://code.visualstudio.com/>).

2. Install Pascal Extension:

- Open VS Code.
- Go to the Extensions tab (you can press `Ctrl+Shift+X` or click the extensions icon on the sidebar).
- Search for "Pascal" and install the extension called Pascal by alefragnani. This extension provides syntax highlighting, code snippets, and other features.

Step 3: Configure Tasks for Compiling Pascal in VS Code

1. Open the folder where your Pascal code is located (or create a new folder for your Pascal projects).

2. Create a new Pascal file, for example, `program.pas`.

3. Set up a task in VS Code to compile Pascal code automatically:

- Go to Terminal > Run Task > Configure Task.
- Choose Create tasks.json from template > Others.
- In the `tasks.json` file, configure a task to run the `fpc` compiler:

```
json
{
  "version": "2.0.0",
  "tasks": [
    {
      "label": "Build Pascal",
      "type": "shell",
      "command": "fpc",
      "args": [
        "${file}"
      ]
    }
  ]
}
```

```

    ],
    "group": {
        "kind": "build",
        "isDefault": true
    },
    "problemMatcher": [],
    "detail": "Task to compile Pascal code"
}
]
}

```

This task will run `fpc` to compile the current file.

Step 4: Compile and Run Your Pascal Program

1. Write your Pascal code in VS Code (for example, `program.pas`):

```

pascal
program HelloWorld;
begin
    WriteLn('Hello, World!');
end.

```

2. Build the code:

- Press `Ctrl+Shift+B` (or go to Terminal > Run Build Task) to compile the code using Free Pascal. It will generate an executable file (like `program.exe` on Windows or `program` on Linux/macOS).

3. Run the code:

- You can either:

- Open a terminal within VS Code (`Ctrl+`` or go to Terminal > New Terminal), and run the compiled program:

```
bash
```

```
./program # On Linux/macOS
```

```
program.exe # On Windows
```

- Or, you can create another task in `tasks.json` to run the compiled program directly.

Here's an additional task for running the compiled Pascal program:

```
json
{
  "label": "Run Pascal",
  "type": "shell",
  "command": "${workspaceFolder}/program", // or "program.exe" for Windows
  "group": {
    "kind": "test",
    "isDefault": true
  },
  "problemMatcher": [],
  "detail": "Task to run Pascal code"
}
```

With this setup, you can press `Ctrl+Shift+P` and choose "Run Pascal" to execute the program directly from VS Code.

Recap

- Install Free Pascal (FPC).
- Install VS Code with the Pascal extension.
- Set up tasks in `tasks.json` to compile and run Pascal programs.
- Write your Pascal code, build it, and execute it either from the terminal or by configuring additional tasks.

Now you can compile and run Pascal code efficiently using VS Code!