# VSCode Customization

## User Settings

- Open “Preferences > Settings”
- Copy the followings and save

```
{
  "dart.previewFlutterUiGuides": true,
  "editor.wordWrap": "on",
  "editor.renderWhitespace": "boundary",
  "editor.tabSize": 2,
  "editor.insertSpaces": true,
  "editor.detectIndentation": false,
  "editor.suggestSelection": "first",
  "eslint.validate": [
    "javascript",
    "javascriptreact",
    "vue"
  ],
  "files.autoSave": "onFocusChange",
  "files.eol": "\n",
  "files.insertFinalNewline": true,
  "window.zoomLevel": 1,
  "workbench.startupEditor": "newUntitledFile"
}
```

## ESLint

Reference: https://code.visualstudio.com/docs/editor/extension-gallery

- install ESLint with VS Code extension

See more details at ESLint

## Common Extensions

Reference: https://code.visualstudio.com/docs/editor/extension-gallery

| Name | Backend | Frontend | Flutter | Optional | Remarks |
|---|---|---|---|---|---|
| Auto Close Tag | □ | □ | □ | | |
| Auto Rename Tag | □ | □ | □ | | |
| C# | □ | □ | | | |
| Dart | □ | | □ | | |

| Name | Backend | Frontend | Flutter | Optional | Remarks |
|---|---|---|---|---|---|
| [Deprecated] Debugger for Chrome | | | | | |
| Auto Close Tag | □ | □ | □ | | |

- Auto Close Tag
- Auto Rename Tag
- C#
- [Deprecated] Debugger for Chrome
- Docker
- DotENV
- Draw.io Integration
- Error Lens
- ESLint
- Fig
  - You need to install Fig, and then will auto install the vscode extension.
  - Currently only supports Mac, with cross-platform support coming soon.
- Gulp Tasks
- IntelliSense for CSS class
- MongoDB for VS Code
  - Except for backend colleagues, please only use it for search purposes as much as possible.
- npm
- npm IntelliSense
- Path IntelliSense
- SQLTools
- SQLTools Microsoft SQL Server/Azure
  - As SQLTools' driver
  - Except for backend colleagues, please only use it for search purposes as much as possible.
- Tasks Panel
- tldraw
- Vetur
- vscode-icons
- Vue 2 Snippets
- webpack

If you are a Flutter developer, install the following extensions:

- Dart
- Flutter
- Kotlin Language
- vscode-flutter-i18n-json

- Material Icon Theme (File Icon Theme)

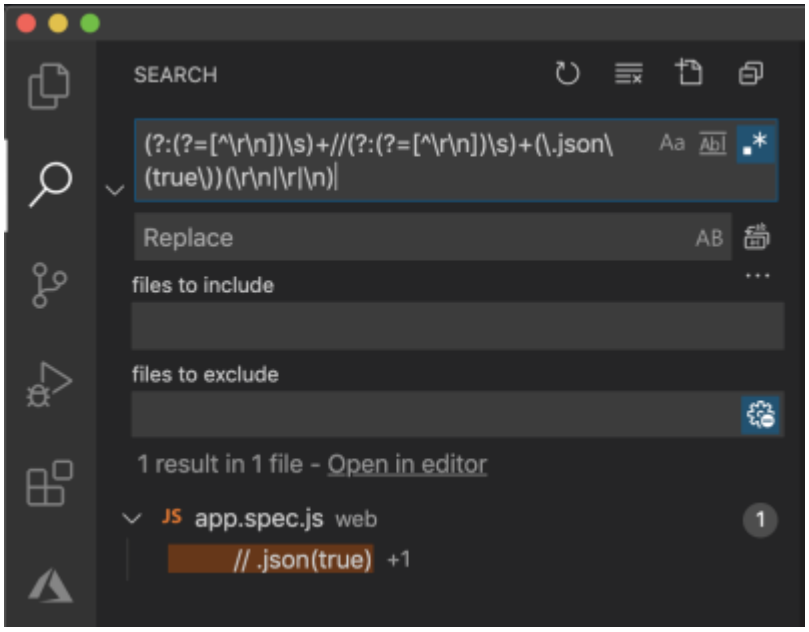
**file icon setting:**

# Use VS Code Regular Expression to search and replace

reference:
https://docs.microsoft.com/en-us/visualstudio/ide/using-regular-expressions-in-visual-studio?view=vs-2019



VS Code allows you to search test or search by Regular Expression




```
whitespace: (?:(?=[^\r\n])\s)
one or more whitespace: (?:(?=[^\r\n])\s)+
new line character: (\r\n|\r|\n)
optional: ?
```

- Combined Examples

```
(?:(?=[^\r\n])\s)+//(?:(?=[^\r\n])\s)+(\.json\(true\))(\r\n|\r|\n)

will match the following, including the new line character at the end
(invisible)
// .json(true)
```

- using optional

```
(?:(?=[^\r\n])\s)+(//)?(?:(?=[^\r\n])\s)+(\.json\(true\))(\r\n|\r|\n)

will match the following two by using optional // by using (//)?, including
the new line character at the end (invisible)
// .json(true)
   .json(true)
```

# Use VS Code to Debug

Reference: https://github.com/Microsoft/vscode-recipes/tree/master/nodemon

We could use VS code to debug BOTH node.js backend and frontend codes at the same time. We use “congress.system” as an example, so change your startup script name, port, etc. accordingly.

## Prerequisite

- install nodemon (to hot reload backend scripts for node.js)

```
$ npm install --save-dev nodemon
```

- modify package.json to run dev mode with nodemon

```
  ...
  "scripts": {
    ...
    "dev": "cross-env NODE_ENV=development nodemon --inspect
congress.system.js", // change your startup script name here
  },
  ...
```

## Launch.json

Config the launch.json with different configurations:

```
{
  // Use IntelliSense to learn about possible Node.js debug attributes.
  // Hover to view descriptions of existing attributes.
  // For more information, visit:
https://go.microsoft.com/fwlink/?linkid=830387
  "version": "0.2.0",
  "configurations": [
    {
      "type": "node",
      "request": "launch",
      "name": "Launch Program",
      "program": "${workspaceRoot}/congress.system.js", // change your
startup script name here
      "cwd": "${workspaceRoot}"
    },
    {
      "type": "node",
      "request": "attach",
      "name": "Attach to Process",
      "port": 5858
```

```
    },
    {
      "type": "node",
      "request": "attach",
      "name": "Node: Nodemon",
      "processId": "${command:PickProcess}",
      "restart": true,
      "protocol": "inspector",
    },
    {
      "type": "chrome",
      "request": "launch",
      "name": "vuejs: chrome",
      "url": "https://0.0.0.0:8080",          // change your IP, port here
      "webRoot": "${workspaceFolder}/public",  // change your folder here
      "breakOnLoad": true,
      "sourceMapPathOverrides": {
        "webpack:///public/*": "${webRoot}/*"
      }
    }
  ]
}
```

#### Explanations

- The first 2 configurations are standard node.js debug configurations created by VS Code.
- The 3rd configuration is added to “attach” the debugger to running node process with nodemon
- The 4th configuration is to open the Chrome browser with connecting to the debugger

### Debugging

Follow these steps to run the debugger

- Start the node backend by running the command in VS Code terminal: “npm run dev”
- Go to VS Code debug pane and run “Node: Nodemon” from the dropdown
  - when prompt, select the running node process corresponding to the “npm run dev”
- Go to VS Code debug pane and run “vuejs: chrome” from the dropdown
  - it will open Chrome

You could now debug both backend and frontend in VS Code.

- when you edit any backend file, nodemon will auto restart the node process

## Using VS Code to run Mocha

You could run the Mocha test inside VS code so that you could even put a breakpoint when running test.

e.g. you have a test script in package.json

```
...
"scripts": {
  "test:lib": "NODE_ENV=test mocha --exit 'lib/test.setup.js'
'lib/**/*.spec.js'",
  "test:models": "NODE_ENV=test mocha --exit 'models/test.setup.js'
'models/**/*.spec.js'",
}
```

You could add a new configuration to your VS code “Launch.json” as follows. The most important part is the “args” list where you put your original arguments there.

```
...
"configurations": [
...
  {
    "type": "node",
    "request": "launch",
    "name": "test:lib",
    "env": {"NODE_ENV": "test"},
    "program": "${workspaceFolder}/node_modules/mocha/bin/_mocha",
    "args": [
      "--timeout",
      "999999",
      "--colors",
      "--exit",
      "${workspaceFolder}/lib/test.setup.js",
      "${workspaceFolder}/lib/**/*.spec.js"
    ],
    "internalConsoleOptions": "openOnSessionStart"
  },
  {
    "type": "node",
    "request": "launch",
    "name": "test:models",
    "env": {"NODE_ENV": "test"},
    "program": "${workspaceFolder}/node_modules/mocha/bin/_mocha",
    "args": [
      "--timeout",
      "999999",
      "--colors",
      "--exit",
      "${workspaceFolder}/models/test.setup.js",
      "${workspaceFolder}/models/**/*.spec.js"
    ],
    "internalConsoleOptions": "openOnSessionStart"
  },
]
```



we may change “user interface” from “tdd” to “bdd”

# Using VS Code to run mochapack (for vue)

- Test components in the '/public/upload' etc. modules

**File** /webpack/vue.test.config.js

```
'use strict'

const merge = require('webpack-merge')
const nodeExternals = require('webpack-node-externals')
const vueBaseConfig = require('./vue.base.config.js')

module.exports = merge(vueBaseConfig, {
  output: {
    devtoolModuleFilenameTemplate: '[absolute-resource-path]',
    devtoolFallbackModuleFilenameTemplate: '[absolute-resource-path]?[hash]'
  },
  devtool: 'inline-cheap-module-source-map',
  externals: [nodeExternals()]
})
```

**File** /public/test.setup.js

```
'use strict'

require('jsdom-global')()
const chai = require('chai')
const sinonChai = require('sinon-chai')

chai.use(sinonChai)
```

**File** package.json

```
...
"scripts": {
   "test:public": "cross-env NODE_ENV=test mochapack --colors --watch --
webpack-config webpack/vue.test.config.js --require 'public/test.setup.js'
'public/**/*.spec.js'",
}
```

add configuration to vscode launch.json file:

```
...
"configurations": [
...
    {
      "type": "node",
```

```
      "request": "launch",
      "name": "test:public",
      "env": {"NODE_ENV": "test"},
      "program": "${workspaceFolder}/node_modules/mochapack/bin/mochapack",
      "args": [
        "--colors",
        "--watch",
        "--webpack-config",
        "${workspaceFolder}/webpack/vue.test.config.js",
        "--require",
        "${workspaceFolder}/public/test.setup.js",
        "${workspaceFolder}/public/**/*.spec.js",
      ]
    }
]
```

# Using VS Code to run Cucumber

Install cucumber-js and add features and steps

- npm install –save-dev cucumber
- add /features/xxx.feature
- add /features/step_definitions/xxx.js

```
...
"configurations": [
...
    {
      "type": "node",
      "request": "launch",
      "name": "test-bdd",
      "env": {"NODE_ENV": "test"},
      "program": "${workspaceFolder}/node_modules/.bin/cucumber-js",
      "args": [
        "${workspaceFolder}/features/**/*.feature",
        "-r",
        "${workspaceFolder}/features/step_definitions/**/*"
      ],
      "console": "integratedTerminal"
    }
]
```

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