

Tools for DEVs & DBAs: Text Editors

Tuesday May 03, 12:00 PM CET

APEX *connect*
by DOAG

3. - 4. Mai 2022

apex.doag.org

in Brühl



Robert Marz
DATABEE
Die IT-Architekten



Robert Marz – Independent Consultant

Primary Role

Senior Technical Architect
with database centric view of the world

DOAG (German Oracle User Group)

Active Member of Database Community
Responsible for Cloud Topics




@RobbieDatabee


robbie.databee.org


robert.marz
@databee.org



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Text Editors: Overview



Don't start the next Editor War

Text Editors are just
Tools

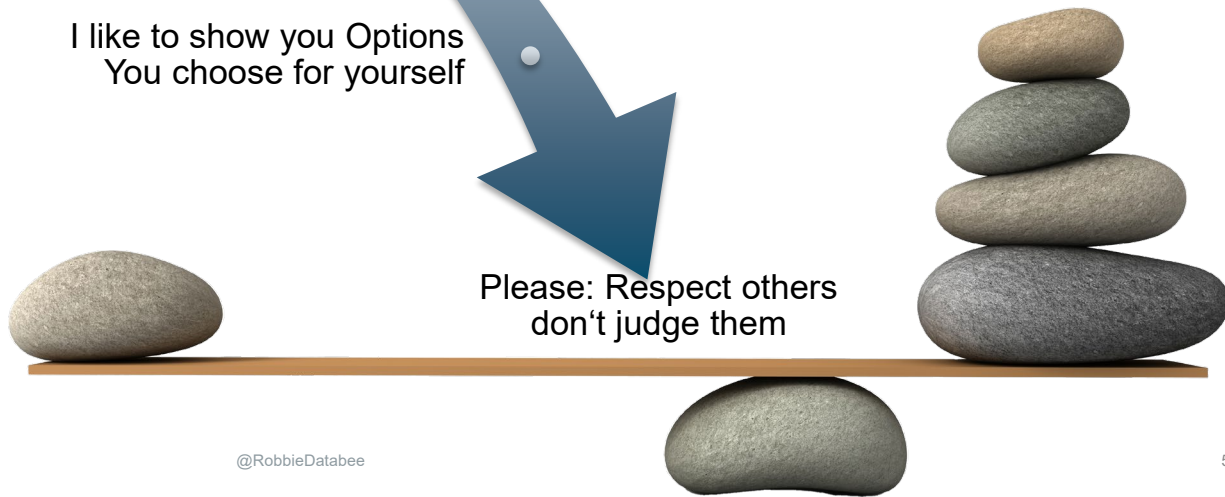
All Editors implement
the core functionality:
editing text files

I like to show you Options
You choose for yourself

They are used everyday by
almost all Developers
and almost every Admin

Humans tend to use the
tools they know (best)

Please: Respect others
don't judge them





Editor vs Integrated Development Environment (IDE)

Classic Editor

lightweight/fast
centered on files & folders
textfile editing
Syntax highlighting

IDE

project centered
integrated build (compilers, etc)
Wizards & Designers
platform tools





































Modern Editor

lightweight/fast
project context (files & folders based)
many languages (via plugins)
code understanding (via plugins)
task execution / running
debug



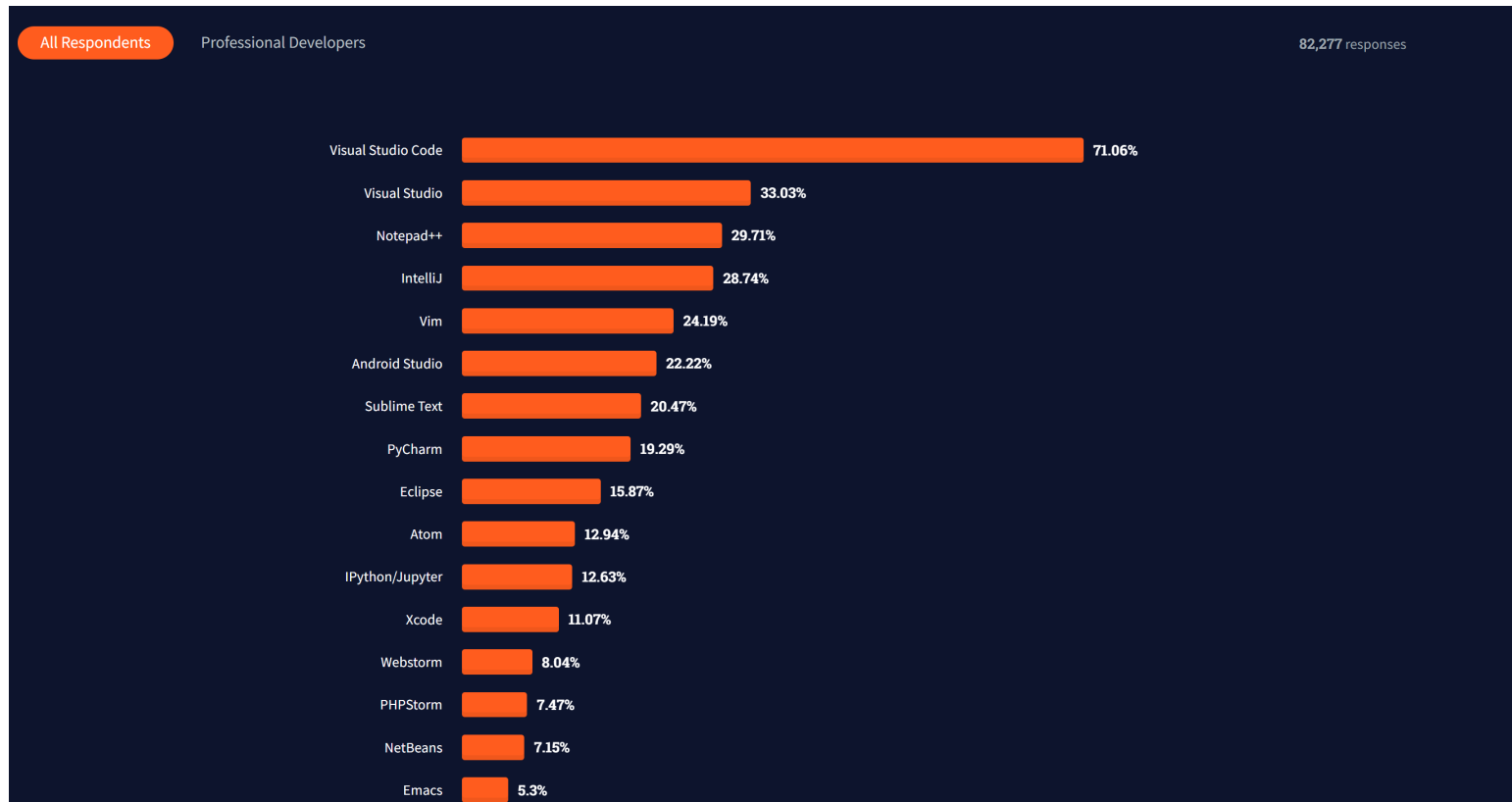
A little History of Software Text Editors

Name	Initial Release	Prog Language	Cost	Platforms
ed	1970	C	no cost	  
vi	1976	C	no cost	  
GNU Emacs	1984	C	no cost	  
Notepad	1985	MASM	Bundled with Windows	
Vim	1991	C, Vim Script	no cost	  
XEmacs	1991	C, Emacs Lisp	no cost	  
Textpad	1992		\$30	
UltraEdit	1994	C++	\$99.95	  
GNU Nano	1999	C	no cost	  
Notepad++	2003	C++	no cost	
TextMate	2004	Objective-C++	no cost	
SublimeText	2008	C++, Python	\$99 (Shareware)	  
Atom	2014	JS, C++	no cost	  
VS Code	2015	JS, TS	no cost	  





IDE Usage (Stackoverflow 2021 Developer Survey)



Source: [Stackoverflow 2021 Developer Survey](#)

Sublime Text





Sublime Text

Get it

<https://www.sublimetext.com/>

free download & evaluation

License \$99,-

Defined Standards

UIX

Search / Navigation

Completion

Keyboard Shortcuts

Journaling Editor

Packages

Package Manager

<https://packagecontrol.io/>

Platforms

Windows / Linux / MacOS

Fast – written in C, GPU Rendering

```
1 #
2 # Be aware that even a small syntax error here can
3 #
4 # Home Page Banner
5 languages:
6 - language: "en"
7   banner:
8     - text1: Senior Technical Architect
9       text2: with a database centric view of the
10      text3: Robert Marz is an Independent Consu
11      buttontext1: About Me
12      buttontext2: Contact Me
13      image: "/images/2019-07-Mt-Rainier.jpg"
14      image_alt: banner image
15 - language: "de"
16   banner:
17     - text1: Senior Technical Architect
18       text2: mit datenbankzentrischem Weltbild.
19       text3: Robert Marz ist selbstständiger Ber
20       buttontext1: Über mich
21       buttontext2: Kontaktieren Sie mich
22       image: "/images/2019-07-Mt-Rainier.jpg"
23       image_alt: banner image
24
```



Sublime Text Basics

Journaling Editor

shadow files

Journal all changes

Persistent storage

Pick up where you left

restores editor layout

unsaved changes available

Important Commands

Goto anywhere

`<ctrl>-p`
Jump to any file

`<@>` Jump to symbol
(`<ctrl>-r`)

`<:>` Goto line
(`<ctrl>-g`)

Open command palette

`<ctrl>-<shift>-p`
Execute any editor function from here

BASICS



Sublime Text Package Control Statistics (Sun, May 1st, 2022)

Package Control

STATS

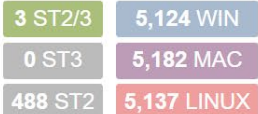
Packages

5,273

PACKAGES

1,941

LABELS



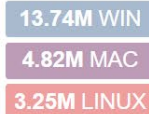
Users

21.81M

USERS

3,814

AUTHORS



Activity Yesterday

28K

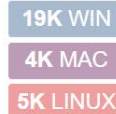
PACKAGE INSTALLS

9K

USER ACTIONS

20.1GB

JSON SERVED



Visual Studio Code





Sublime Text VS Code Basics

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shadow files

Journal all changes

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restores editor layout

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(`<ctrl>-g`)

Open command palette

`<ctrl>-<shift>-p`
Execute any editor function from here

BASICS



VS Code

Get it

<https://code.visualstudio.com/>
free download & usage
Source code on [GitHub](https://github.com/microsoft/vscode)
under MIT License

Extensions

Built-In Extension Marketplace
<https://marketplace.visualstudio.com/vscode>

Platforms

Windows / Linux / MacOS
Fast enough
– written in highly optimized TS & JS

The screenshot shows the VS Code interface with several components labeled:

- A Activity Bar**: Located on the left side, it contains icons for Explorer, Search, Source Control, Run and Debug, and Extensions. Below these icons is a list of files and folders, including 'OPEN EDITORS', 'VS CODE PROJECTS (WORKSPACE)', and a file explorer for the current project.
- B Side Bar**: Located at the bottom left, it shows the current branch ('master'), commit hash ('171: 0f'), and system tray icons.
- C Editor Groups**: The main area where code is edited. It shows multiple editor windows, including 'findModel.ts', 'findOptionsWidget.ts', 'CONTRIBUTING.md', 'contextmenus.ts', and 'package.json'. The 'package.json' file is currently selected and shows its contents.
- D Panel**: Located at the bottom right, it contains the PROBLEMS, OUTPUT, DEBUG CONSOLE, and TERMINAL views. The TERMINAL view is active, showing a PowerShell prompt.
- E Status Bar**: Located at the bottom, it displays the current file's location ('Ln 1, Col 1'), encoding ('UTF-8'), language ('JSON'), and other status information.





















VS Code Marketplace

Visual Studio | Marketplace Sign in 🔍

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Search Visual Studio Code extensions 🔍

36036 Results Showing: All categories ▾ Sort By: Installs ▾

 <p>Python Microsoft microsoft.com 🌐 ⬇️ 55.5M</p> <p>IntelliSense (Pylance), Linting, Debugging (multi-threaded, remote), Jupyter Notebooks,...</p> <p>★★★★★ FREE</p>	 <p>Jupyter Microsoft microsoft.com 🌐 ⬇️ 36.1M</p> <p>Jupyter notebook support, interactive programming and computing that supports...</p> <p>★★★★★ FREE</p>	 <p>C/C++ Microsoft microsoft.com 🌐 ⬇️ 30.8M</p> <p>C/C++ IntelliSense, debugging, and code browsing.</p> <p>★★★★★ FREE</p>	 <p>Pylance Microsoft microsoft.com 🌐 ⬇️ 28.8M</p> <p>A performant, feature-rich language server for Python in VS Code</p> <p>★★★★★ FREE</p>	 <p>Live Server Ritwick Dey ⬇️ 21.1M</p> <p>Launch a development local Server with live reload feature for static & dynamic pages</p> <p>★★★★★ FREE</p>	 <p>Prettier - Code format Prettier ⬇️ 20.7M</p> <p>Code formatter using prettier</p> <p>★★★★★ FREE</p>
 <p>ESLint Microsoft microsoft.com 🌐 ⬇️ 19.8M</p> <p>Integrates ESLint JavaScript into VS Code.</p> <p>★★★★★ FREE</p>	 <p>Jupyter Keymap Microsoft microsoft.com 🌐 ⬇️ 18.7M</p> <p>Jupyter keymaps for notebooks</p> <p>★★★★★ FREE</p>	 <p>IntelliCode Microsoft microsoft.com 🌐 ⬇️ 18.5M</p> <p>AI-assisted development</p> <p>★★★★★ FREE</p>	 <p>Jupyter Notebook Re Microsoft microsoft.com 🌐 ⬇️ 16.8M</p> <p>Renderers for Jupyter Notebooks (with plotly, vega, gif, png, svg, jpeg and other...</p> <p>★★★★★ FREE</p>	 <p>Chinese (Simplified) (i Microsoft microsoft.com 🌐 ⬇️ 15.8M</p> <p>Language pack extension for Chinese (Simplified)</p> <p>★★★★★ FREE</p>	 <p>C# Microsoft microsoft.com 🌐 ⬇️ 15.7M</p> <p>C# for Visual Studio Code (powered by OmniSharp).</p> <p>★★★★★ FREE</p>
					

Screenshot taken at Sun, May 1st, 2022



WATCH
LIVE



Working with VS Code



Search & Replace with multi-cursors

Multi-cursors

- Mark a word and press <ctrl>-d
 - selects next occurrence and places additional cursor
- More cursors can be added
 - with <ctrl><alt><up> & <ctrl><alt><down>
 - <alt>-Click (mouse)
 - <shift><alt> <mouse-selection>

Editing

- occurs at every cursor in parallel
- same for copy/paste
- all cursors are moved together

Stop it!

- press <esc> to remove all additional cursors
- Avoid destroying remote areas of your files with left-over cursors!

```
31 .global-message-list.transition {
32 → -webkit-transition: top 200ms linear;
33 → -ms-transition: top 200ms linear;
34 → -moz-transition: top 200ms linear;
35 → -khtml-transition: top 200ms linear;
36 → -o-transition: top 200ms linear;
37 → transition: top 200ms linear;
38 }
```

```
6
7 The quick brown fox jumps over the lazy dog.
8 → The quick brown fox jumps over the lazy dog.
9 → → The quick brown fox jumps over the lazy dog.
10 → → → The quick brown fox jumps over the lazy dog.
11 → → → → The quick brown fox jumps over the lazy dog.
12 → → → → → The quick brown fox jumps over the lazy dog.
13
14
```

```
208
209 // Key Character Virtual Key Code
210 // Semicolon ';' 186
211 // Colon ':' 186
212 // Equals sign '=' 187
213 // Plus '+' 187
214 // Comma ',' 188
215 // Less than sign '<' 188
216 // Minus '-' 189
217 // Underscore '_' 189
218 // Period '.' 190
219 // Greater than sign '>' 190
220 // Forward slash '/' 191
221
```



IntelliSense

IntelliSense

- is a general term for various code editing features including:
 - code completion
 - parameter info
 - quick info
 - member lists

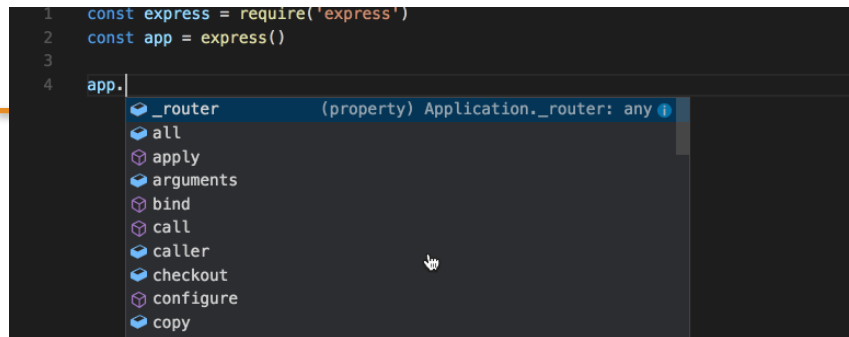
Supported Languages

- Out of the box:
 - JavaScript, TypeScript, JSON, HTML, CSS, SCSS
- Others via Extensions
 - e.g. python, C/C++, C#, Java, Go, PHP, Ruby, ...

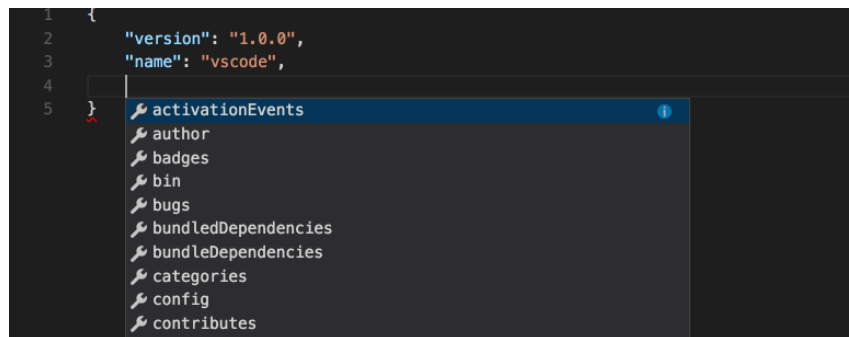
Trigger IntelliSense

- IntelliSense watches while you code
- it can be triggered with `<ctrl><space>`
- choose options with `<tab>` or `<enter>`

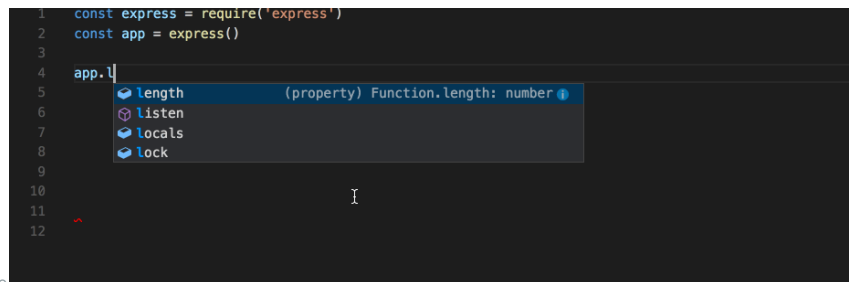
```
1 const express = require('express')
2 const app = express()
3
4 app.
```



```
1 {
2   "version": "1.0.0",
3   "name": "vscode",
4
5 }
```



```
1 const express = require('express')
2 const app = express()
3
4 app.
5
6
7
8
9
10
11
12
```





Settings – GUI vs JSON, sync

Settings Scope

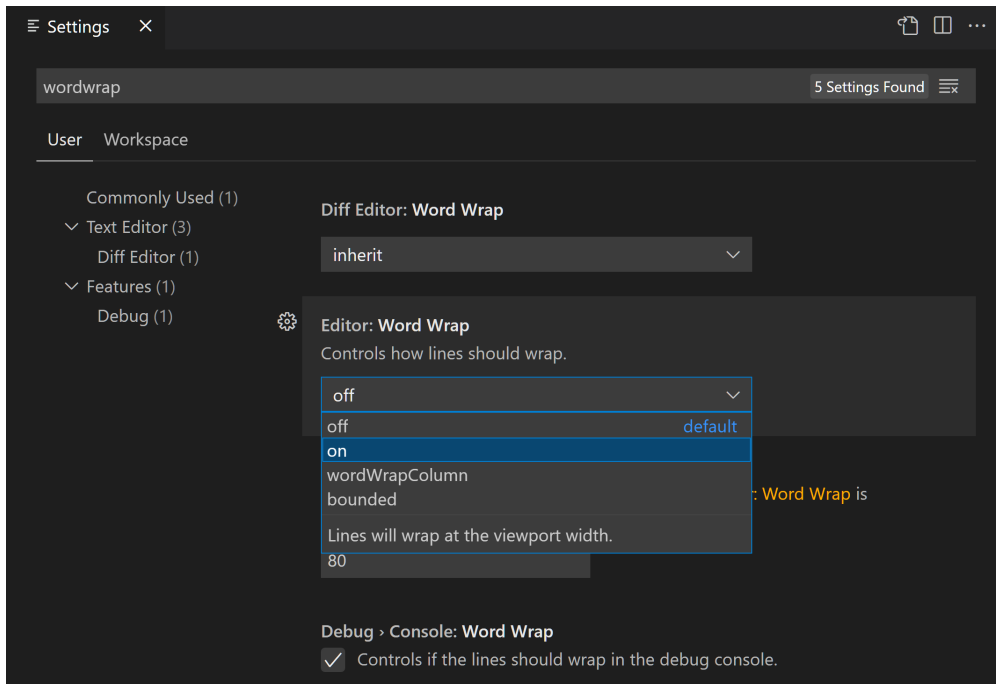
- Different Scopes:
 - Default – User - Workspace

Settings Editor

- Settings can be changed via GUI Editors
- Those modify settings.json files
- Not all Options are available in GUI – edit JSON directly
- Syntax & Schema checking is in Place

Settings sync

- VS Code Settings can be synced out of the box
- Must be turned on
- Choose an Account: Microsoft or GitHub
- Sync work automatically
- Conflicts can be merged or replaced
- Local and remote Backups are available





Version Control

Timeline

- Local History
- New Instance every „save file“
- Combined with VCS Commits

Native Git Integration

- Full Featured Git Client included

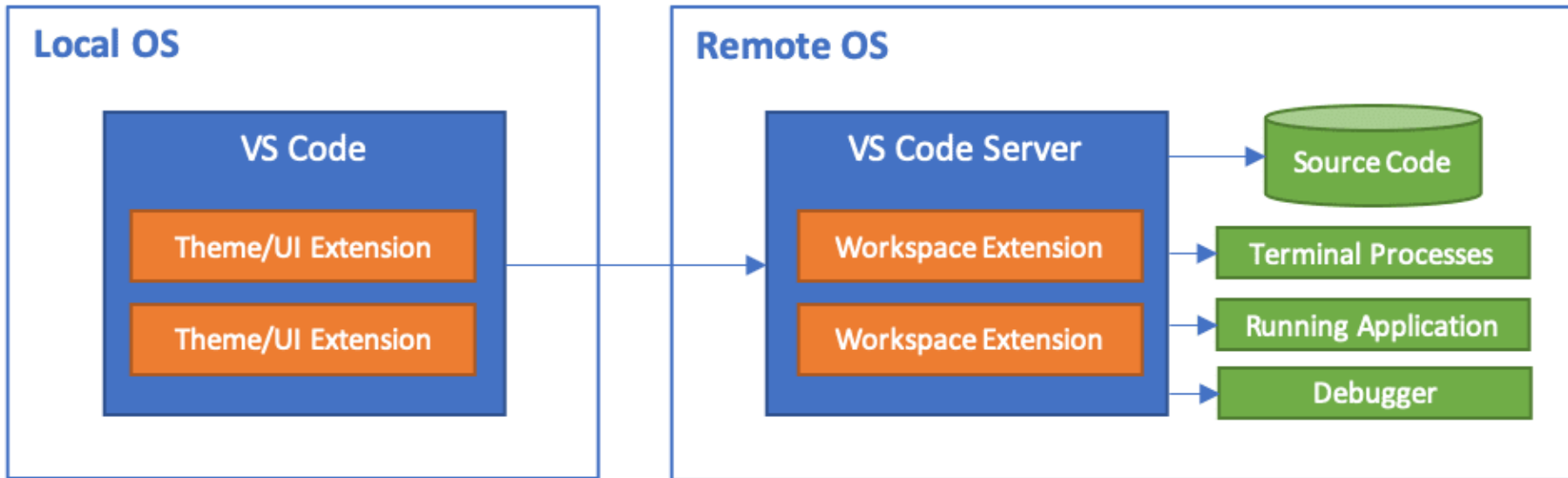
Extensions

- [Subversion](#)
- [GitLens](#)
- [Git File History](#)

```
1 {
2   "name": "githistory-web",
3   "version": "0.1.0",
4   "repository": "pomber/git-history",
5   "private": true,
6   "dependencies": {
7     "diff": "^4.0.1",
8     "js-base64": "^2.5.1",
9     "netlify-auth-providers": "^1.0.0-alpha5",
10    "prismjs": "^1.15.0",
11    "react": "^16.8.1",
12    "react-dom": "^16.8.1",
13    "react-scripts": "2.1.3",
14    "react-swipeable": "^4.3.2",
15    "react-use": "^5.2.2"
16  },
17  "scripts": {
18    "start": "react-scripts start",
19    "build": "react-scripts build",
20    "format": "prettier --write '**/*.{js,jsx,md,json,html,css,yml}' --ignore-path .gitignore",
21    "test-prettier": "prettier --check '**/*.{js,jsx,md,json,html,css,yml}' --ignore-path .gitignore",
22    "test-cra": "react-scripts test",
23    "test": "run-s test-prettier test-cra",
24    "eject": "react-scripts eject"
25  },
26  "eslintConfig": {
27    "extends": "react-app"
28  },
29  "browserslist": [
30    ">0.2%",
31    "not dead",
32    "not ie <= 11",
33    "not op_mini all"
34  ],
35  "devDependencies": {
36    "npm-run-all": "^4.1.5",
```



VS Code Remote Editing



Remote Development extension pack

Remote – SSH

Remote – Containers

Remote – WSL

Edits remote

Shows GUI local

Server must be downloaded to remote

Ssh tunneling is possible



Oracle Developer Tools for VS Code

Oracle Developer Tools for VS Code (SQL and PLSQL)

- Needs dotnet Core Runtime (installation instructions for all platforms included)

Feature Highlights

- Connection Dialog
- Create and manage Oracle Autonomous Databases
- Oracle Database Explorer
- PL/SQL debugger
- Use IntelliSense to autocomplete schema objects
- Navigate SQL and PL/SQL code with Hover, Go to, and Peek
- View table data and save as CSV or JSON
- Navigate through scripts using breadcrumbs
- Problems panel integration
- Code snippets
- Test stored procedures and functions
- Bookmarks and history

```
HR_XEPDB1 > PackageBody > HR > ORAMAG.plsql > PACKAGE BODY "ORAMAG" > FUNCTION "IS_PRIME"
15 -- private function to determine if a number is likely prime
16 FUNCTION "IS_PRIME" ("P_NUMBER" IN NUMBER) RETURN NUMBER IS
17 l_sqrt number := 0;
18 l_sqrt_ceil number := 0;
19 l_divisor number := 0;
20 l_divisor_squared number := 0;
21 begin
22 -- prime numbers must be >= 2
23 if p_number < 2 then
24 return IS_NOT_A_PRIME;
25 end if;
26
27 -- only integers can be prime
28 if p_number != ceil(p_number) then
29 return IS_NOT_A_PRIME;
30 end if;
31 end;
```



WATCH
LIVE

A wide-angle photograph of a desert landscape. In the foreground, a dark asphalt road with yellow and white lane markings curves through the scene. The road is flanked by vast, undulating sand dunes of a rich orange-brown hue. The sky is a clear, pale blue. A semi-transparent yellow and orange gradient box is overlaid on the left side of the image, containing the text "Odds & Ends".

Odds & Ends



Zooming



Font Size

Increase:
<CTRL> - +

Decrease:
<CTRL> - -



Themes

Themes

- Themes are Extensions
- Install via Marketplace
- Often contain dark & light versions
- Some even change Icons-Design

Switch

- Use Command Palette `<ctrl><shift>-p` Preferences: Color Theme
- Or Direct: `<ctrl>-k <ctrl>-t`
- Search by name
- Use `<cursor up>` / `<cursor down>` to browse / live preview





Screencast Mode

- VS Code has Builtin Screencast Mode

Enable

- Use Command Palette
- `<ctrl><shift>-p` Developer: Toggle Screencast Mode





Screenshots

Screenshot Extensions

- Quickly save screenshots of your code
- Copy screenshots to your clipboard

Extensions

- [CodeSnap](#)
- [Polacode](#)
- [Snipped](#)

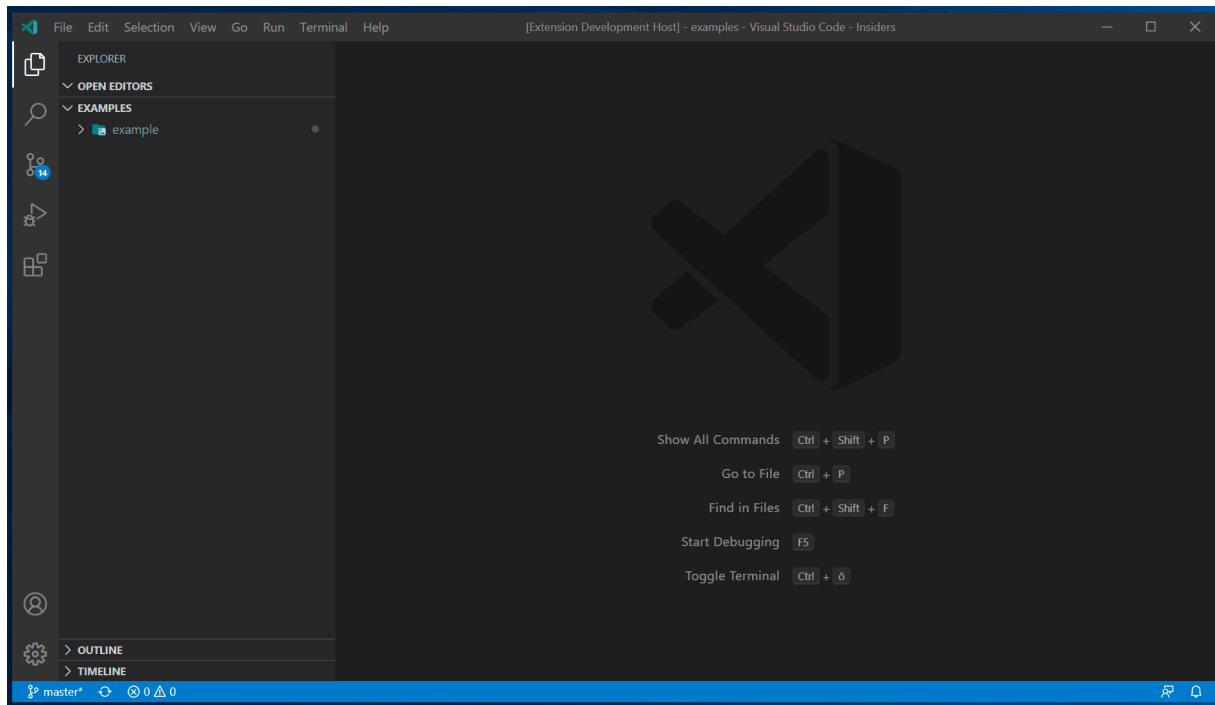
```
src > App.vue > () "App.vue"
1 <template>
2   <div id="app">
3     
4     <HelloWorld msg="Welcome to Your Vue.js App"/>
5   </div>
6 </template>
7
8 <script>
9 import HelloWorld from './components/HelloWorld.vue'
10
11 export default {
12   name: 'app',
13   components: {
14     HelloWorld
15   }
16 }
17 </script>
18
19 <style>
20 #app {
21   font-family: 'Avenir', Helvetica, Arial, sans-serif;
22   -webkit-font-smoothing: antialiased;
23   -moz-osx-font-smoothing: grayscale;
24   text-align: center;
25   color: #2c3e50;
26   margin-top: 60px;
27 }
28 </style>
29
```



Diagrams – draw.io

Draw.io Integration Extension

- Uses an offline version of Draw.io by default.
- Multiple Draw.io themes are available.
- Use Liveshare to collaboratively edit a diagram with others.
- Nodes/edges can be linked with code spans.





Live Preview

Some Filetypes can be live rendered while you type

- Markdown
- HTML
- SVG
- Geospatial Content
- PDF

Extension

- Opens new Editor Pane
- Shows changes online





WATCH
LIVE



Drawbacks of modern Editors

Availability

- Not available by Default
- they need to be installed

Dealing with large Files

- Performance goes down when opening large files
- The Editors try to analyze / syntax highlight every line
- → Whole File must be loaded / reloaded on change



Conclusion





Text Editors – Know your Tools, choose wisely

