

# DOAG

[datenbank.doag.org](http://datenbank.doag.org)

## Tools for DEVs & DBAs: Text Editors

Montag, 30. Mai 13:15



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



  
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# Text Editors: Overview



# Don't start the next Editor War

Text Editors are just  
Tools

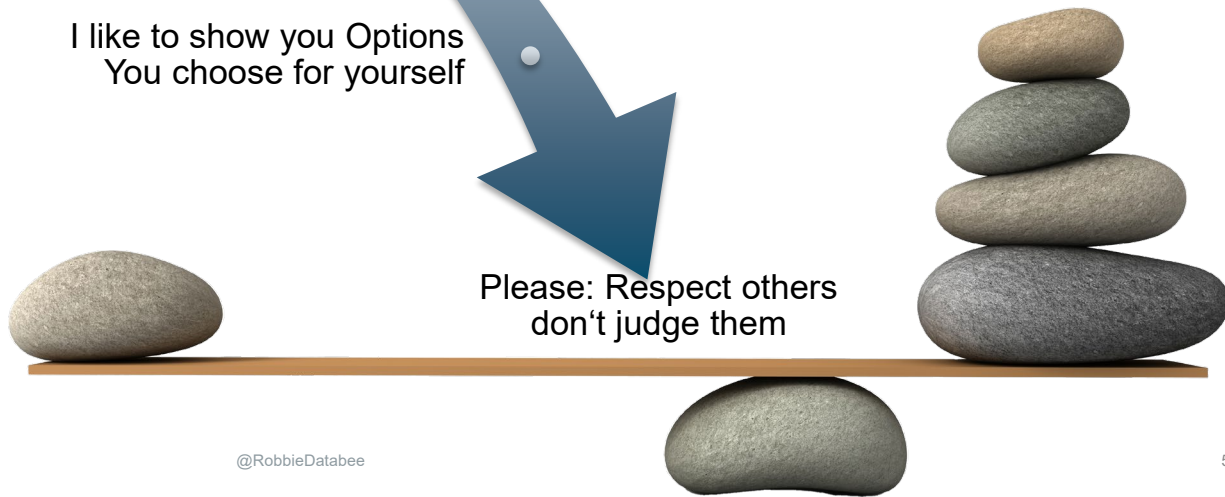
All Editors implement  
the core functionality:  
editing text files

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



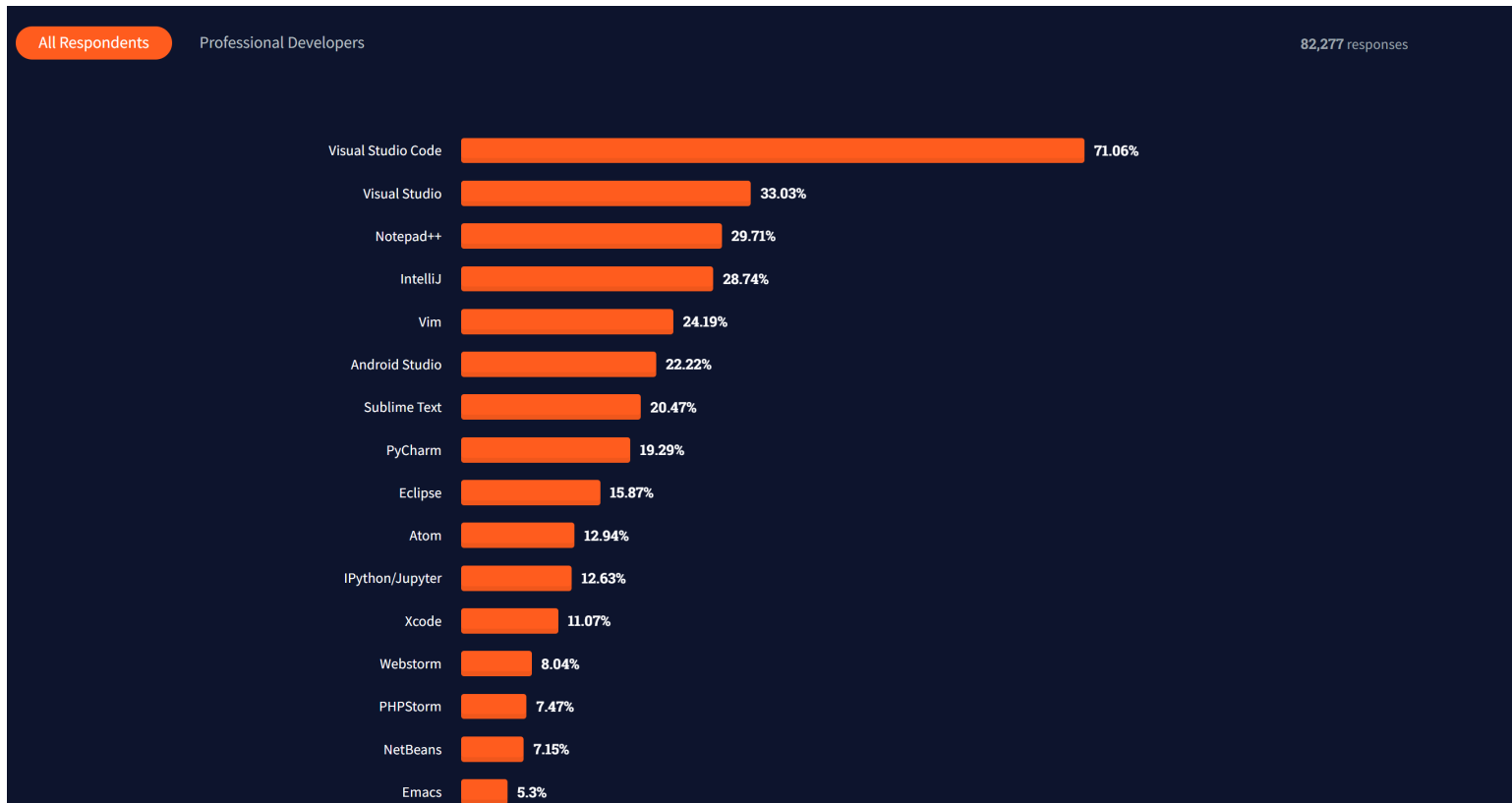
# A little History of Software Text Editors

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 1<sup>st</sup>, 2022)

## Package Control

STATS

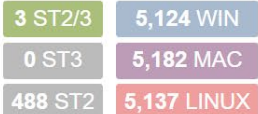
Packages

5,273

PACKAGES

1,941

LABELS



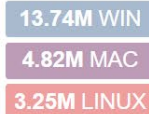
Users

21.81M

USERS

3,814

AUTHORS



Activity Yesterday

28K

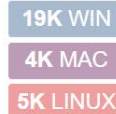
PACKAGE INSTALLS

9K

USER ACTIONS

20.1GB

JSON SERVED



# Visual Studio Code





# Sublime Text VS Code Basics

## 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



# VS Code

## Get it

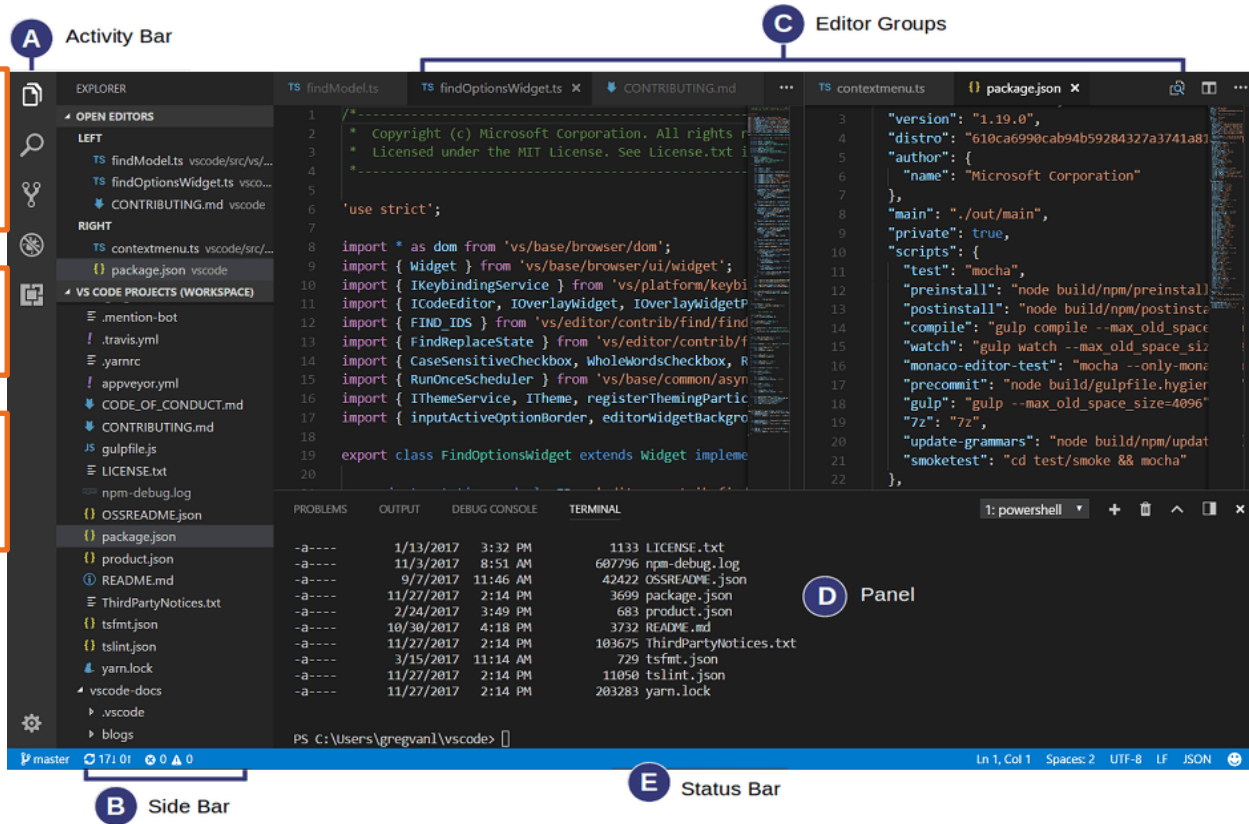
<https://code.visualstudio.com/>  
free download & usage  
Source code on [GitHub](https://github.com/microsoft/vscode)  
under MIT License

## Extensions

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

## Platforms

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





# VS Code Marketplace

Visual Studio | Marketplace Sign in 🔍

Visual Studio **Visual Studio Code** Azure DevOps Subscriptions Build your own Publish extensions

Search Visual Studio Code extensions 🔍

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

Extension Name	Developer	Downloads	Price	Rating
Python	Microsoft	55.5M	FREE	★★★★☆
Jupyter	Microsoft	36.1M	FREE	★★★★☆
C/C++	Microsoft	30.8M	FREE	★★★★☆
Pylance	Microsoft	28.8M	FREE	★★★★☆
Live Server	Ritwick Dey	21.1M	FREE	★★★★★
Prettier - Code formatter	Prettier	20.7M	FREE	★★★★☆
ESLint	Microsoft	19.8M	FREE	★★★★☆
Jupyter Keymap	Microsoft	18.7M	FREE	★★★★☆
IntelliCode	Microsoft	18.5M	FREE	★★★★☆
Jupyter Notebook Renderers	Microsoft	16.8M	FREE	★★★★☆
Chinese (Simplified)	Microsoft	15.8M	FREE	★★★★★
C#	Microsoft	15.7M	FREE	★★★★☆
Docker	Docker	-	-	-
Python (Pylance)	Microsoft	-	-	-
Live Share	Microsoft	-	-	-
ML Kit	Microsoft	-	-	-

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, PL/SQL

## 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

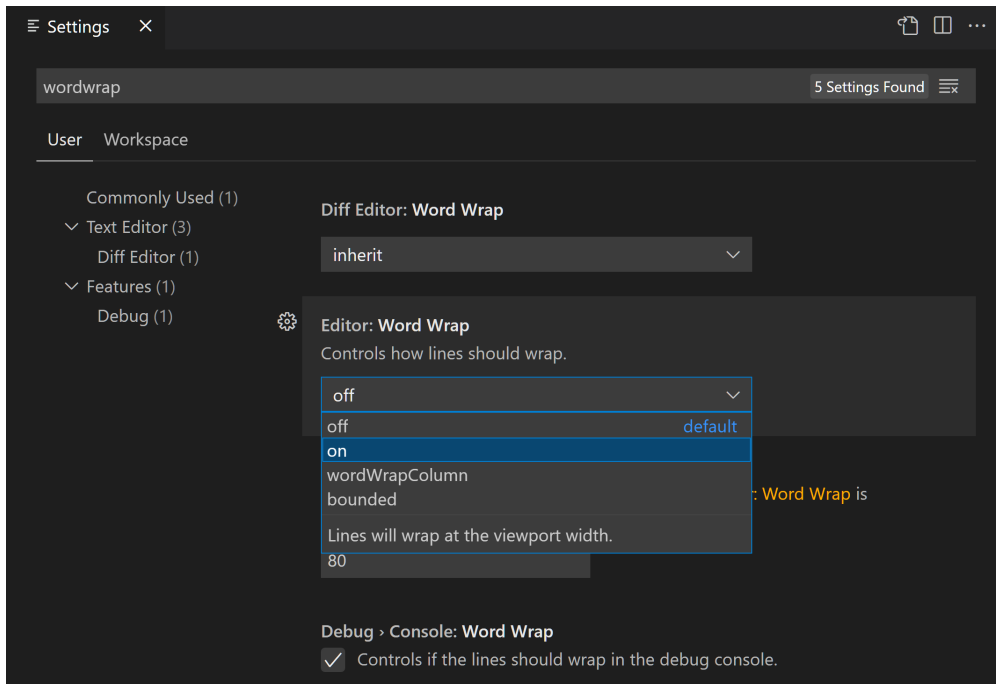
- Different Scopes:
  - Default – User - Workspace

## 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

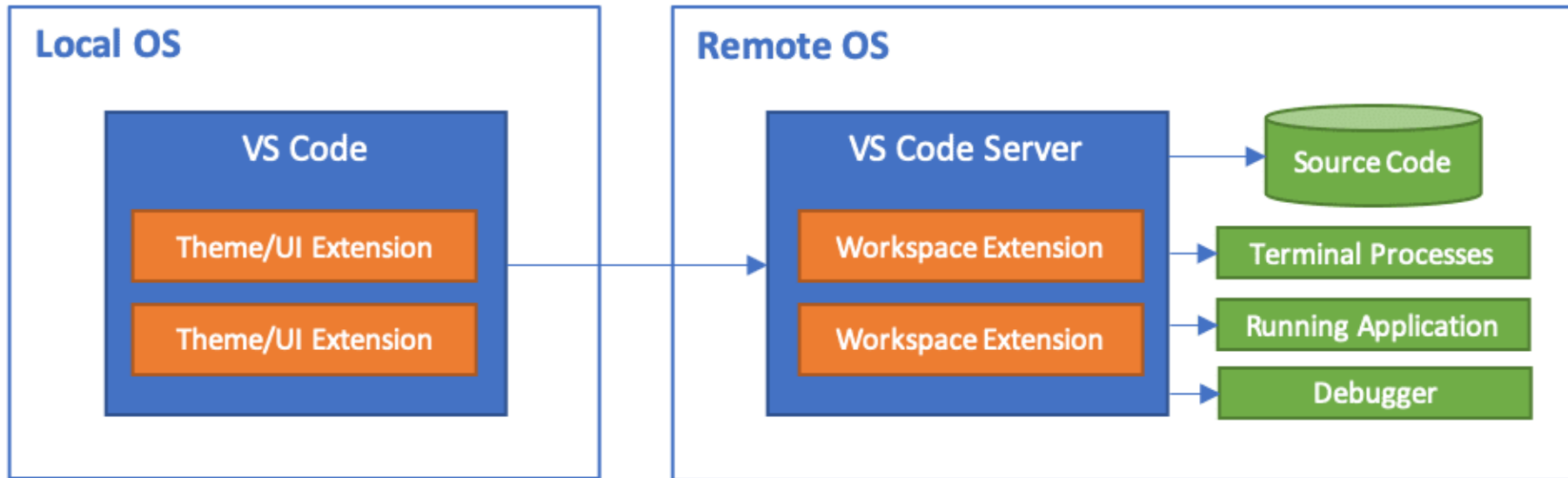
## Extensions

- [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

```
Oracle Developer Tools | ORAMAG.plsql | X  
VARIABLES | HR.XEPPDB1 > PackageBody > HR > ORAMAG.plsql > PACKAGE BODY "ORAMAG" > FUNCTION "IS_PRIME"  
Locals  
P_NUMBER: 13  
L_SQRT: 0  
L_SQRT_CEIL: 0  
L_DIVISOR: 0  
L_DIVISOR_SQUARED: 0  
WATCH  
p_number: 13  
l_sqrt: 0  
CALL STACK  
Oracle Developer To... | STOPPED ON BREAKPOINT  
HR_ORAMAG_IS_PRIME PackageBody.HR.OR... | src > PLSQL_JDBC_Debugging.java > PLSQL_JDBC_Debugging > demolsPrime(Connection)  
ANONYMOUS_BLOCK Block.HR.XEPPDB1.XE... | 142  
Launch PLSQL_JDBC_Debugging | RUNNING | 143  
Thread [InterruptTimer] | RUNNING | 144  
Thread [oracle.jdbc.driver.BlockSou... | RUNNING | 145  
Thread [Attach Listener] | RUNNING | 146  
Thread [Signal Dispatcher] | RUNNING | 147  
Thread [Signal Dispatcher] | RUNNING | 148  
Thread [Signal Dispatcher] | RUNNING | 149  
PLSQL_JDBC_Debugging.java | 142  
private void demoIsPrime(Connection conn) throws SQLException {  
143 String sql = "BEGIN ? := ORAMAG.IS_PRIME(?); end;";  
144 try (CallableStatement callStmt = conn.prepareCall(sql)) {  
145 callStmt.registerOutParameter (1, Types.INTEGER);  
146 callStmt.setInt(2, 13);  
147 callStmt.execute();  
148 Util.show("The value returned by ORAMAG.IS_PRIME is "+callStmt.getInt(1)+"");  
149 }  
}
```

```
5  
6 select e. from employees e  
ALL COLUMNS  
*  
(all columns)  
commission_pct  
department_id  
email  
employee_id  
first_name  
hire_date  
job_id  
last_name  
manager_id  
phone_number
```



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 bar is overlaid on the left side of the image, containing the text 'Odds & Ends' in white.

# 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](#)

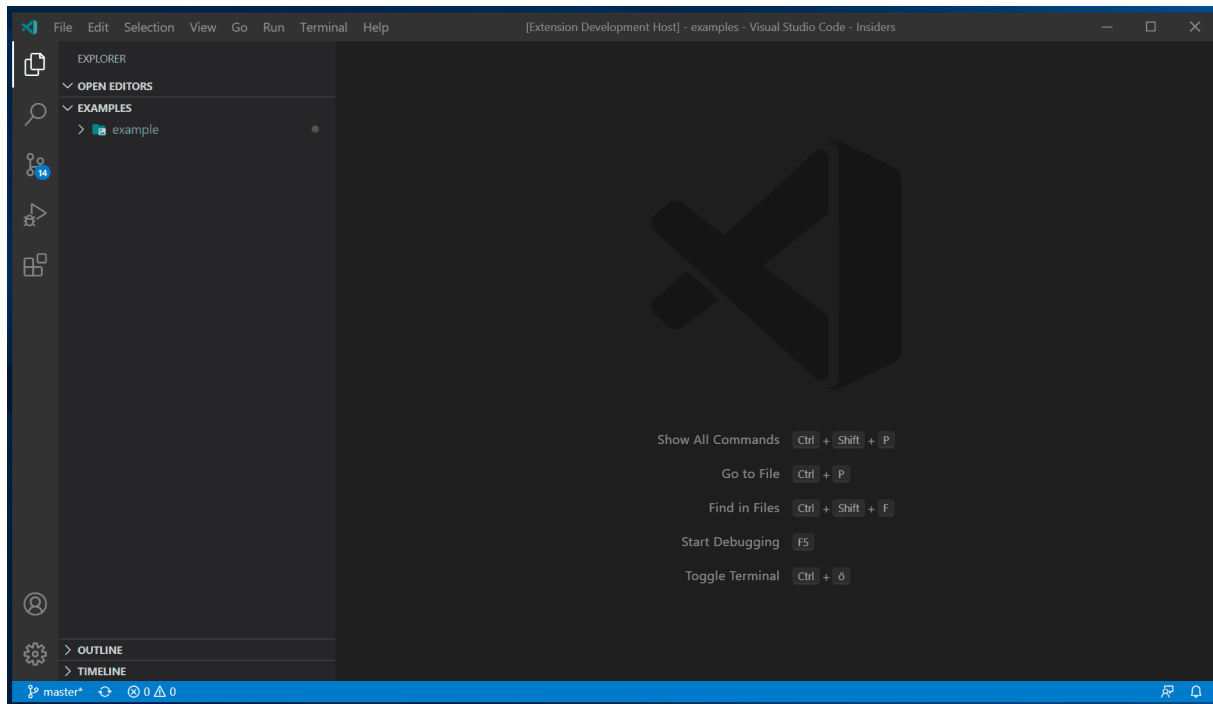
```
src > App.vue > {} App.vue
1 <template>
2   <div id="app">
3     
4     <HelloWorld msg="Welcome to Your Vue.js App"/>
5   </div>
6 </template>
7
8 <script>
9 import HelloWorld from './components/HelloWorld.vue'
10
11 export default {
12   name: 'app',
13   components: {
14     HelloWorld
15   }
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





# GitHub Copilot – AI Pair Programmer

## AI based

- Suggestions / Completions

## Machine Learning based on GitHub Repos

- works especially well for Python, JavaScript, TypeScript, Ruby, and Go
- Not enough PL/SQL in GitHub for good Results
- “Intellisense is on Steroids”
  - Improved suggestions for where clauses and joins

## Availability

- Currently available via waitlist
- GA in “Summer 2022”





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



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# Conclusion





## Text Editors – Know your Tools, choose wisely

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