

Visual Studio Code for the **Java Developer**

@rorypreddy

Meet Rory

- **Developer** in **R&D** team at **BBD**
 - Training for 500 Developers
 - Most Languages & Frameworks
- Organizer for the **Jozi-JUG**
- Not related to **Tyrion Lannister**
- Don't do **kids** parties



© Rory



- 2000+ members
- 20+ venues
- Conferences
- Monthly meetups

www.meetup.com/Jozi-JUG

Agenda

- History
- Why Visual Studio Code?
- Language-Servers
 - Java Language Server
 - Build your own Language server
- How can you start?

WHEN YOU PROGRAM OPEN SOURCE,
YOU'RE PROGRAMMING
COMMUNISM



A REMINDER
from
YOUR FRIENDS AT MICROSOFT

Organizations with the most open source contributors



Microsoft

16,419



facebook

15,682



docker

14,059



angular

12,841



google

12,140



atom

9,698



FortAwesome

9,617



elastic

7,220



Apache

6,999



npm

6,815

NOT SURE

WHAT JUST HAPPENED

History



- **May 2001** - Microsoft's Shared Source Initiative, launched

- **November 2014** - .NET open-sourced

- **November 2015** - Red Hat Linux for Azure launched

- **April 2016** – Visual Studio code released



- **Jul 2016** - Language Server Protocol open-sourced

- **May 2017** – Eclipse Oxygen released

FORGOT I WAS ON

3G



**DOWNLOADED VISUAL STUDIO
ISO**

memegenerator.net

Why Visual Studio Code?

*“Code-optimized lightweight tool, not a complete IDE.
There's no File | New Project or visual designers.”*

- Scott Hanselman

*“Visual Studio Code complements your command-line
experience with a lightweight code editor that runs on
Windows, Mac and Linux.”*

- <https://www.microsoft.com>

Why Visual Studio Code?

editor

lightweight/fast
file/folders
many languages
many workflows
keyboard centered



IDE

project systems
code understanding
debug
integrated build
File>New, wizards
designers
ALM integration
platform tools
...

lightweight/fast
file/folders with project context
many languages
keyboard centered
code understanding (some languages)
debug
task running

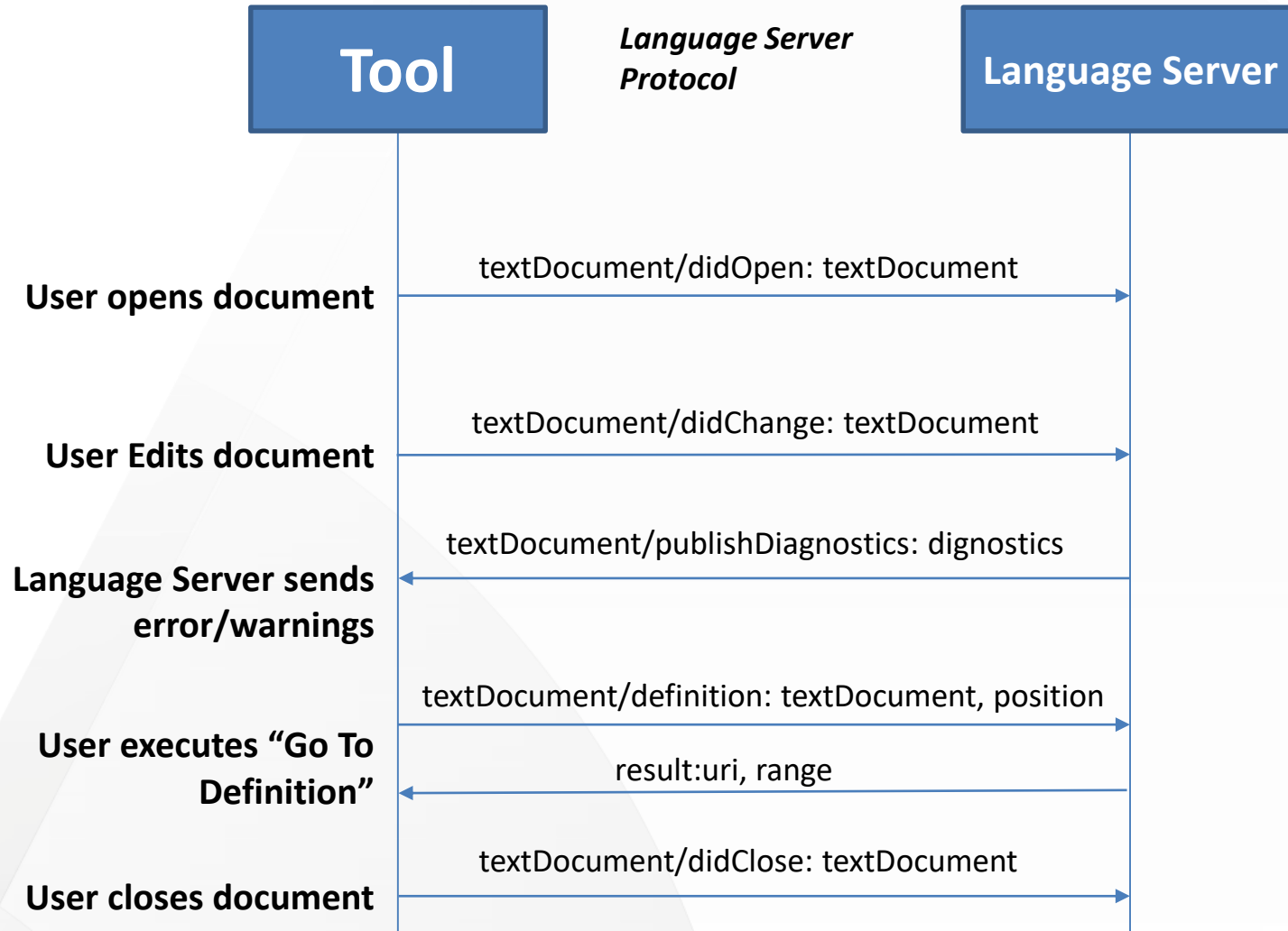
Why Visual Studio Code?

The Problem: “The Matrix”				
	Go	Java	C#	...
Emacs				
VIM				
VSCode				
Eclipse				
...				

Solution: The Language-Server-Protocol (LSP)

- Cross platform language server that that can integrate with any Code Editor
- Inspired by the V8 debugger protocol

Language-Server



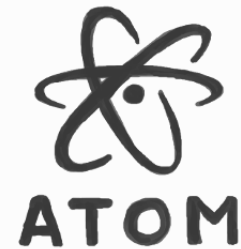
JSON RPC

Some Language Servers

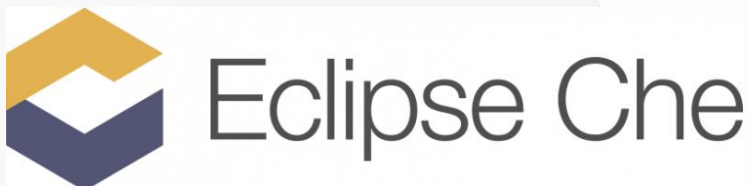
Language	Language Server
JSON	Bundled with VS Code
CSS/LESS/SASS	
TypeScript/JavaScript	
C# .NET Core	Language Server Extensions
Java	
groovy	
Scala	
Swift	
Go	
Python	

Supporting Tools:

Editors Now



IDE's Soon





OH BAXTER

YOU KNOW I DON'T SPEAK JAVA

makeameme.org

Java Language Server Demo

1. Install Java 8 & Maven
2. Install Visual Studio Code and Java Extension
3. Create a maven project (quick start archetype)
4. Open Folder in Visual Studio Code
 - If you want to see the JSon exchanges, Change user settings `"java.trace.server": "off "` to `" verbose"`

**SPRING BOOT AND ANGULAR IN VS
CODE?**

DARK JAR JAR!

```
person.component.ts x
1 import {Component, OnInit} from '@angular/core';
2 import {Router, ActivatedRoute, Params} from '@angular/rout
3 import {Response} from '@angular/http';
4 import * as Rx from 'rxjs/Rx';
5
6 import {PersonService} from '../person.service';
7 import {Person} from '../domain';
8 import {showLoading, hideLoading, doNothing} from '../commo
9
10 @Component({
11   selector: 'app-person',
12   templateUrl: '../person.component.html',
13   styleUrls: ['./person.component.css']
14 })
15 export class PersonComponent implements OnInit {
16
17   person: Person;
18
19   constructor(private router: Router, private route: Acti
20
21   }
22
23   ngOnInit() {
24     this.route.params.subscribe(
25       this.personService.getPerson(Number(params['id']
26     ));
27
28   }
29
30   delete(person) {
31     let observable: Rx.Observable<Response> = this.pers
32     showLoading();
```

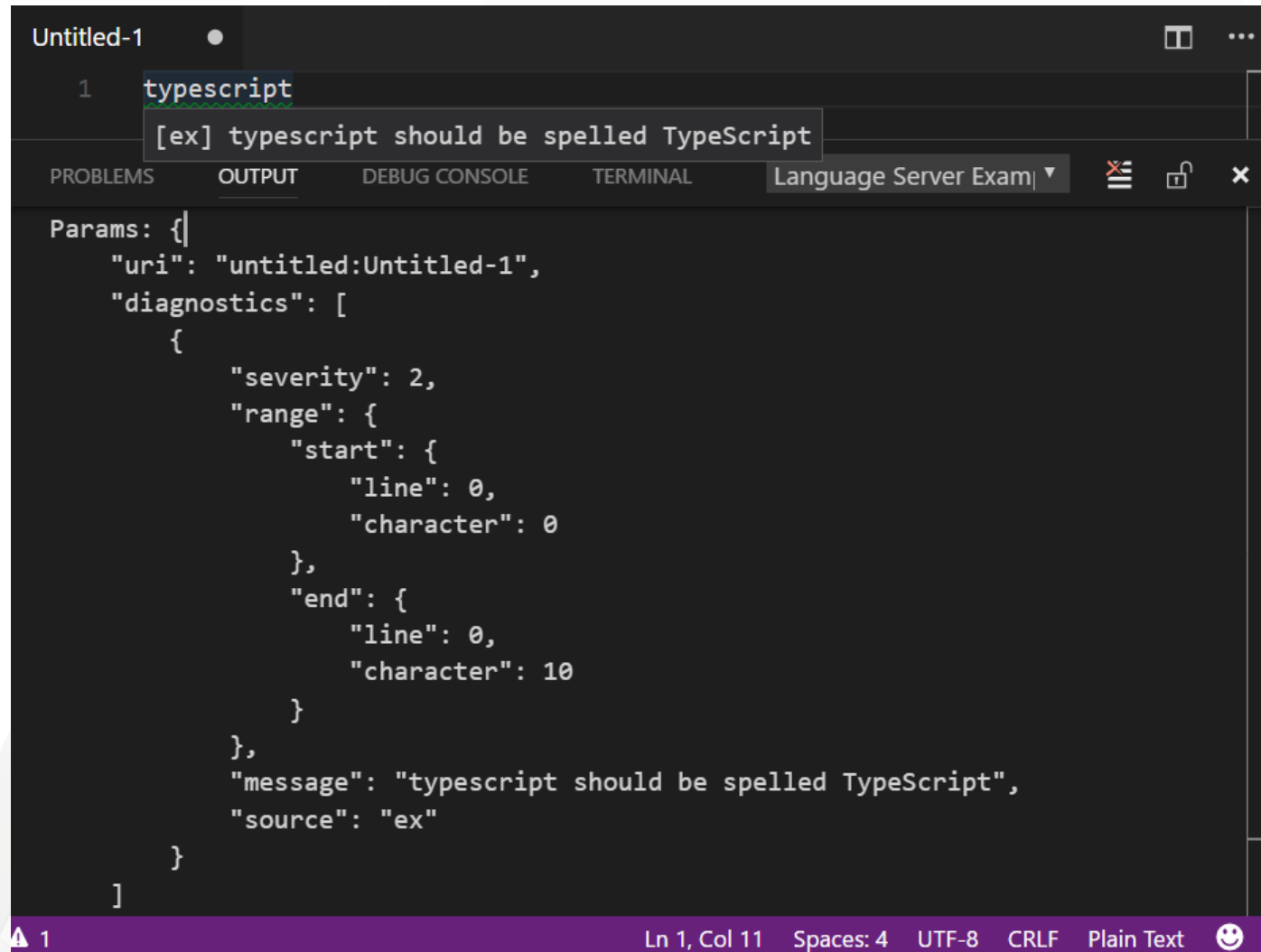
```
PersonDTO.java •
21 references
6 public class PersonDTO extends AbstractDTO {
7
8   String firstname;
9
10   Integer age;
11
12   Date dateOfBirth;
13
14   public String getFirstname() {
15     return firstname;
16   }
17
18   void deletePerson(Long id);
19
20   void savePerson(PersonDTO personDTO);
21
22   void updatePerson(PersonDTO personDTO);
23
24   PersonDTO getPerson(Long id);
25
26   Page<PersonDTO> findPersons(Pageable
27
28   }
29
30   }
31
32   }
33
34   }
35
36   }
37
38   }
39
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96   }
97
98   }
99
100  }
```

Build your own Language server

1. Git clone project
2. In “**Server**” project → Ctrl+Shift+B to build
3. In “**Client**” project → F5 to launch Extension
4. Type the following content: “typescript”
 - Language-server suggests a replacement

Source: <https://code.visualstudio.com/docs/extensions/example-language-server>

Build your own Language server



The screenshot shows an IDE window titled "Untitled-1" with a TypeScript file. A suggestion box above the word "typescript" indicates a spelling correction: "[ex] typescript should be spelled TypeScript". Below the editor, the "OUTPUT" panel displays the JSON response from a language server:

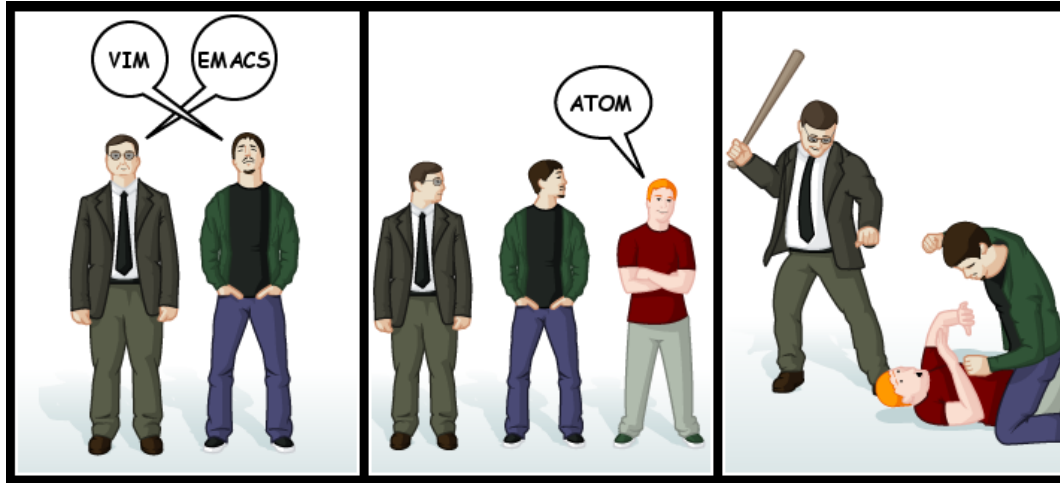
```
Params: {  
  "uri": "untitled:Untitled-1",  
  "diagnostics": [  
    {  
      "severity": 2,  
      "range": {  
        "start": {  
          "line": 0,  
          "character": 0  
        },  
        "end": {  
          "line": 0,  
          "character": 10  
        }  
      },  
      "message": "typescript should be spelled TypeScript",  
      "source": "ex"  
    }  
  ]  
}
```

The status bar at the bottom indicates the cursor is at "Ln 1, Col 11" with "Spaces: 4", "UTF-8" encoding, "CRLF" line endings, and "Plain Text" format.

**WHEN YOU HAVEN'T TOLD ANYONE IN 5
MINUTES YOU USE**

VIM

How can you start?



- Install you Language Servers extensions for:
 - Sublime,
 - Atom,
 - VIM,
 - EMAC
- Set your VS code Keymap to your old editor
 - Go to Preferences -> Keymap Extensions
- Try VSCode for everyday development



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