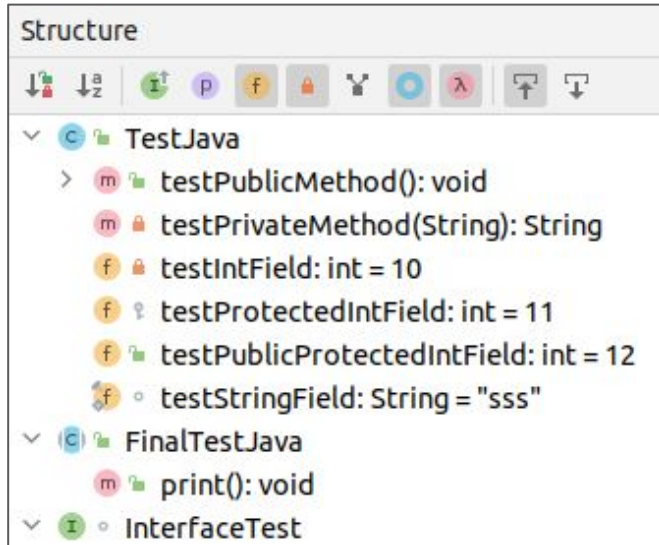


Layout for the Structure view in IntelliJ CE

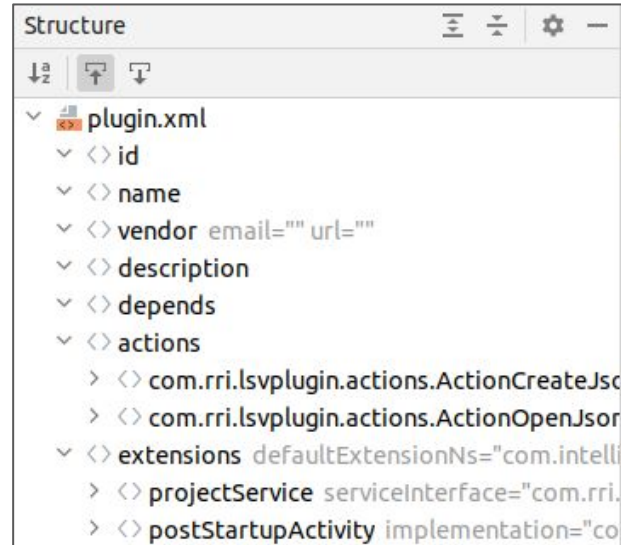
Mentors: Evgeniy Koshkin, Stanislav Dombrovsky
Author: Vladislav Arefiev

Introduction

Structure view — a tool window that displays the structure of a file currently opened in the editor and having the focus.



Java



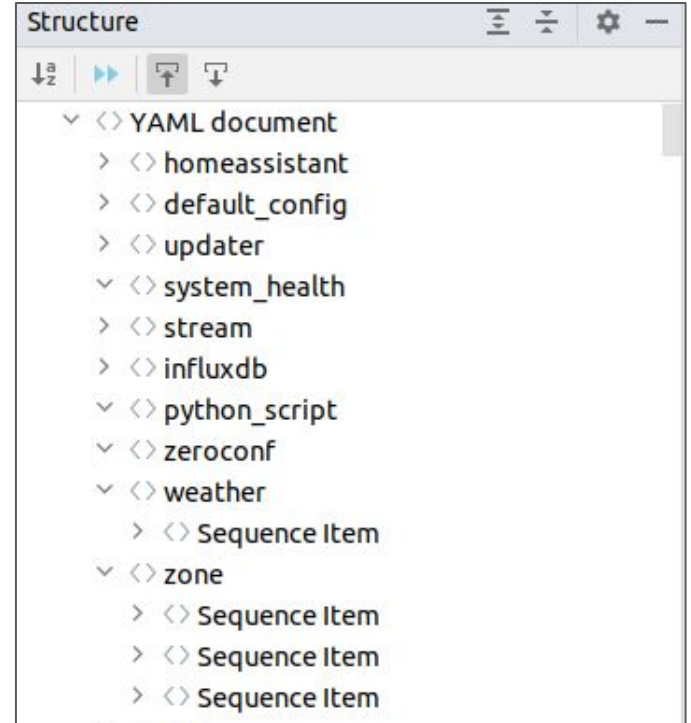
Xml

Problem

Issues:

- Items can't be customized
- Cannot change toolbar of the structure view
- Unable to navigate large files

Goal: provide the ability to change the displayed elements, their appearance and tool window.

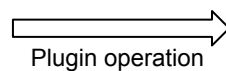


Yaml

Solution. How it works?

```
[
  {
    "settings" : {
      "languages": ["java"],
      "showFile": false
    },
    "element": {
      "class": {
        "baseToken": "CLASS",
        "attributes": {
          "unique": [ "name", "class_keyword" ]
        },
        "baseIcon": { "iconId": "classIcon" },
        "text": ["name"],
        "description": []
      }
    },
    "attribute": {
      "lists": {},
      "properties": [
        {
          "id": "name",
          "token": "IDENTIFIER"
        }
      ]
    }
  },
  {
    "keywords": [
      {
        "id": "class_keyword",
        "token": "CLASS_KEYWORD"
      }
    ],
    "icons": [
      {
        "id": "classIcon",
        "iconType": "Base",
        "icon": "Class"
      }
    ],
    "filters": {
      "visibility": {
        "Classes": {
          "notElementType": ["class"],
          "iconId": "classIcon"
        }
      }
    }
  }
],
```

Simple config



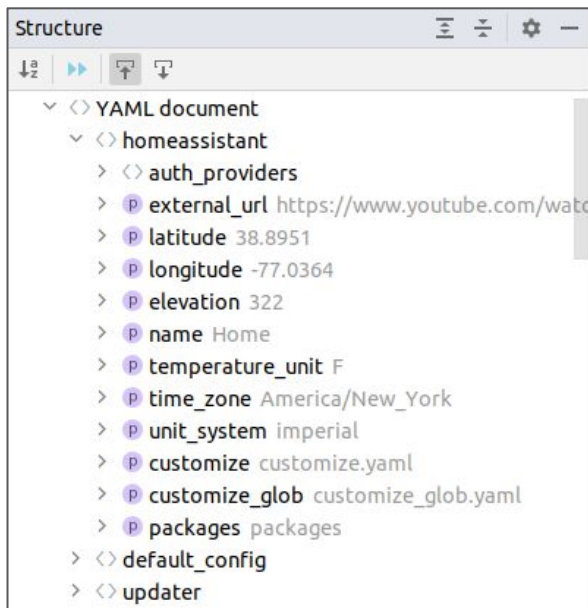
Structure

↓^a | [c] | [↑] [↓]

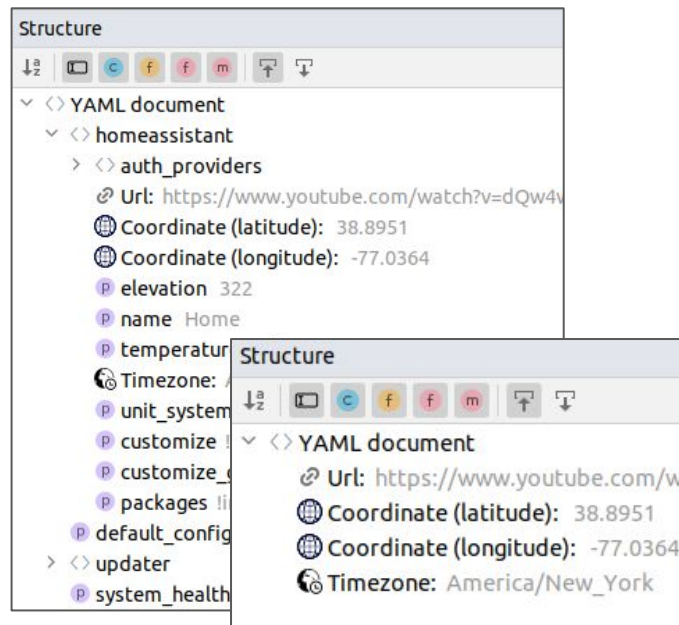
- [c] TestJava
- [c] FinalTest
- [c] InterfaceTest
- [c] FieldTest
- [c] MethodTest
- [c] LambdaTest
- [c] AnonClassTest
- [c] PrivateTest
- [c] PublicTest
- [c] ProtectedTest

Result

Solution. Usage example



Before



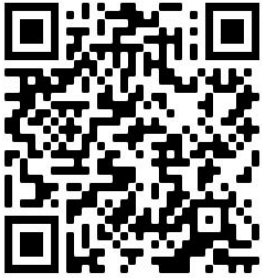
After

Technical solutions

- Deep Dive into IntelliJ Plugin Development
- Studied part of the internal structure of languages in IntelliJ Idea
- Understood the methods and ways of testing plugins provided by IDE
- Studied and summarized the techniques for creating a structure view for different languages

Future plans:

- Publication of the plugin in the marketplace



<https://github.com/SuduIDE/ij-struct-view-layout>

Thank you for your attention

More examples

Structure

- testJava
 - testIntField: int
 - testProtectedIntField: int
 - testPublicProtectedIntField: int
 - testStringField: String
 - testPublicMethod(): void
 - \$0**
 - anonField: int
 - print(): void
 - \$1
 - lambda\$0 (<lambda expression>)
 - lambda\$1 (<lambda expression>)
 - testPrivateMethod(String): String
 - FinalTestJava
 - print(): void
 - InterfaceTest

Java

Structure

- Car
 - constructor(brand)
 - carname
 - present()
- Model
 - constructor(brand mod)
 - model**
 - show()

JS

Structure

- id
- name
- vendor email=" url="
- description
- depends
- actions
 - action class='com.rri.lsvplugin.actions.Act
 - action class='com.rri.lsvplugin.actions.Act
 - extensions defaultExtensionNs='com.intellij'
 - projectListeners

XML