

UML Class Parser – Personal Project

1. Java SourceCode Parsing and UML diagram generation

- **Libraries**

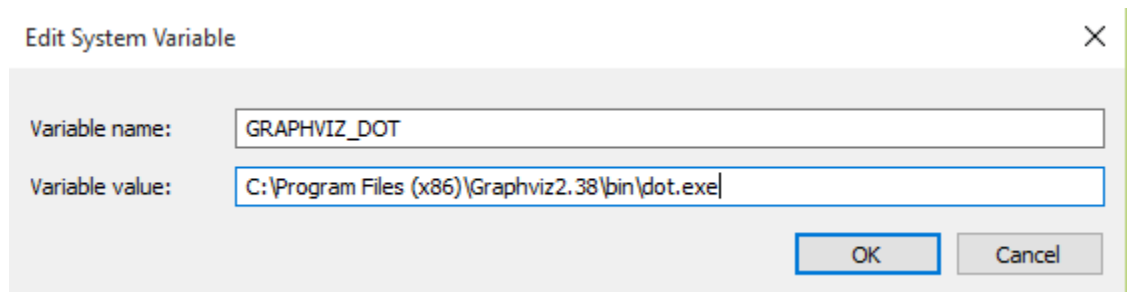
- For parsing the java source code, I have used JavaParser (<https://github.com/javaparser/javaparser>)
- I have used libraries of JavaParser to extract the desired elements from the java SourceCode.
- I searched for Maven central repository and downloaded the jar file from there, which then was included in the main project. (<http://search.maven.org/#search%7Cgav%7C1%7Cg%3A%22com.github.javaparser%22%20AND%20a%3A%22javaparser-core%22>)
- I have used PlantUML for generating the UML class diagram. (<http://plantuml.com/classes.html>)
- PlantUML has the dependency of graphviz to generate the PNG file. (<http://www.graphviz.org/content/dot-language>)

- **Logic**

- According to the manual given on the github, I have created a compilation unit which returns the whole JavaDoc unit which then can be iterated through to get desired elements.
- After creating a Compilation Unit, I have created visitors for class, interface, implements, extends, methods and attributes.
- I have stored everything in the ArrayList and Map so that I can generate a grammar to generate the UML diagram.
- For Getter and Setter methods, I have created one visitor which checks for the Get<Attribute> and Set<Attribute> methods and accordingly changed the private visibility to public of respected attribute.
- After getting all list and maps, I have introduced a visitor to check for the dependency and multiplicity and stored them in the dependency list.
- Once I have all the visited elements ready, I have started writing the grammar for the PlantUML.
- PlantUML has the dependency of Graphviz to generate the PNG file.

2. Compilation Instructions

- I have included the runnable jar file with the submission folder. To execute the jar one must follow below instructions:
 - Install **Graphviz** on the system and include environment variable of 'dot.exe' file.
Eg.



- Place the UMLClassParser.jar file in the directory and execute following command from the command prompt.

Java -jar UMLClassParser.jar "<classpath>" <output file name>

Eg. Java -jar UMLClassParser.jar "D:\CMPE-SE\uml-parser-test-4\uml-parser-test-4" testcase4

- **Compiling the source code**

- For compiling source code one needs to include **javaparser-core-2.2.1.jar**, **guava-18.0.jar** and **plantuml.jar**. (All the jar files have been included with the source code submission folder)
- One must give two command line arguments in order to execute the project successfully.