

# PyCharm ANTLR4 Guide

In order to work with ANTLR4 from an IDE, it is needed to install the ANTLR4 grammar plugin.

In our case, we are going to be writing Python3 from PyCharm IDE (based on IntelliJ). However, ANTLR4 has plugins available for most mainstream IDEs.

**Note:** Since the plugin is going installed locally, when working in the class room, you might have to re-install install the plugin every time you log on and off.

## Setting up the environment

### 1. Download the ANTLR v4 grammar plugin for PyCharm

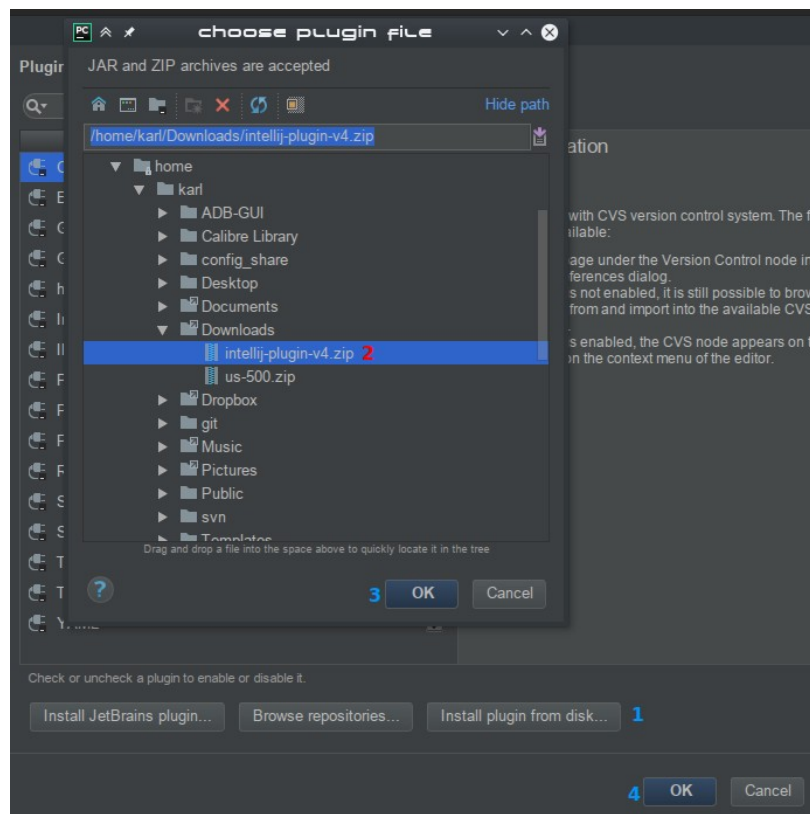
- Open the following link in your browser  
<https://plugins.jetbrains.com/plugin/7358-antlr-v4-grammar-plugin>
- Scroll down and download the latest version (note down the path where the file gets downloaded)

### 2. Create a new project in PyCharm

- Call the project „ANTLR\_CSV\_to\_JSON“
- Select Python3 as the interpreter

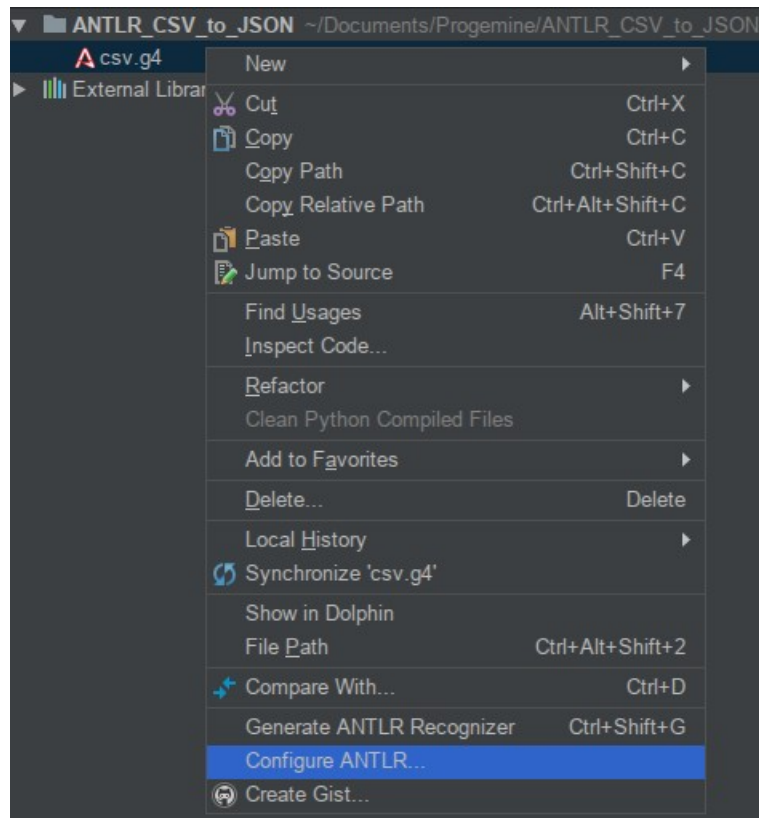
### 3. Install the plugin

- Open PyCharm settings window (press CTRL + ALT + S)
- Open „Plugins“ page
- Click „Install plugin from disk...“
- Choose the zip file containing the plugin that you just downloaded
- Click OK
- Restart PyCharm to activate the plugin

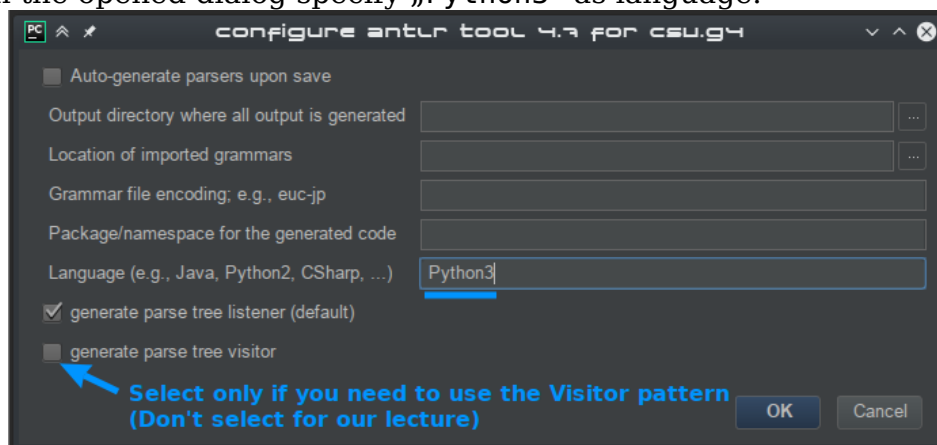


## Creating a new ANTLR file

1. Right-click on your project folder in PyCharm, select „New” -> „File”
2. Enter <grammar\_name>.g4 as the file name (EX: csv.g4)
3. If PyCharm offers to install syntax highlighting support for .g4 files, install it and restart PyCharm
4. Configure ANTLR for the current grammar:
  - a) Right click on the grammar file and choose „Configure ANTLR...”

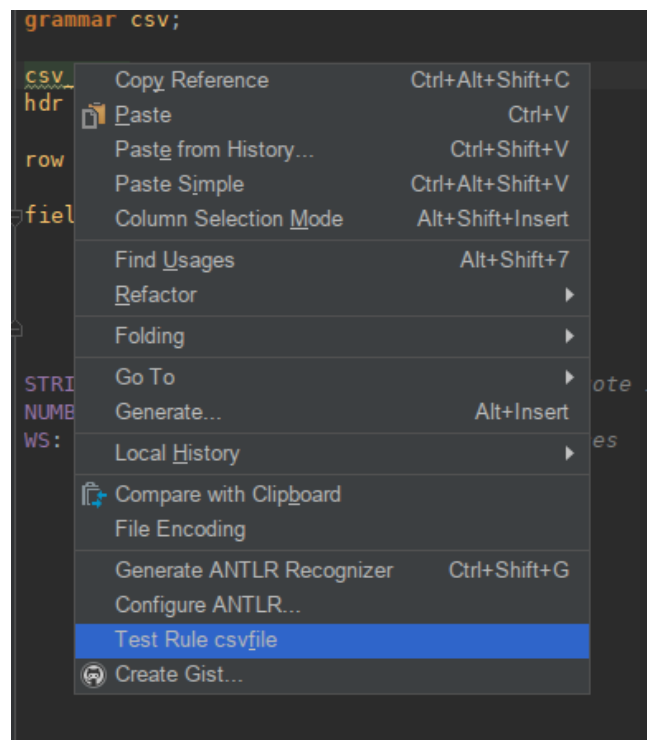


- b) In the opened dialog specify „Python3” as language.



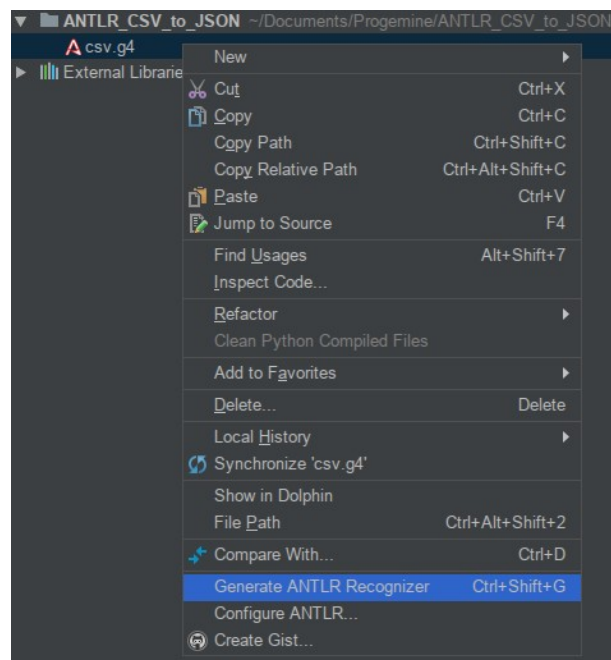
## Testing ANTLR Rules

Right click on the top-level parser rule and choose Test Rule <rule\_name>



## Generating ANTLR4 Parser

Right click on your .g4 file and choose “Generate ANTLR Recognizer” from the menu.



If you get the following error:

“symbol file conflicts with generated code in target language or runtime”

Then it means that you have specified a parser rule in your .g4 file with a name that shadows a Python’s built-in function name.