Building C# Base Language

This tutorial will guide you through building the plugin with our C# base language from scratch.

First, you will need to install the *LangDoc* plugin since our base language depends on it. Go to *File*, *Settings*, *Plugins*, *Marketplace* and search for the *LangDoc* term. You should see something similar to what is presented in Figure 4.20. Now, install the found *LangDoc* plugin. You will be probably asked for restarting the JetBrains MPS. Please, do so.
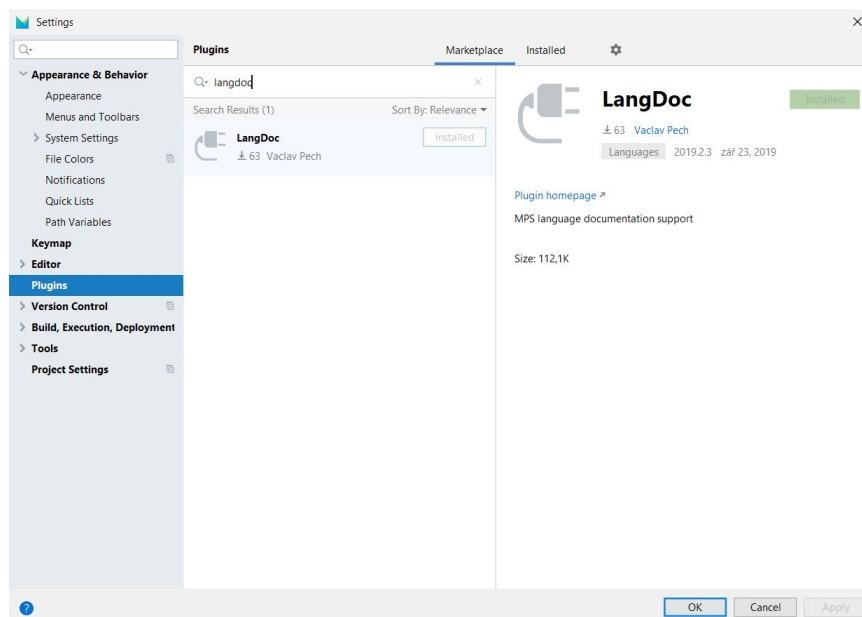

Figure 4.20: Searching for the LangDoc plugin

Then, get our source code of the C# base language. It is available on GitHub (see the link in *Appendix B*), you can either clone the project or download an archive containing the source code.

When you are done, open the project with JetBrains MPS. You can do that via *File*, *Open* and selecting the directory *mpscs* that you have just cloned or downloaded from GitHub.

Now, right-click the project in the project explorer and trigger *Rebuild Project*[1], as in Figure 4.21. This will compile the language and all related parts in this project.

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[1] If you do not want to rebuild the whole project, you may rebuild just the solutions *CsBaseLanguage*, *CsBaseLanguage.plugin* and *CsBaseLanguage.build*.
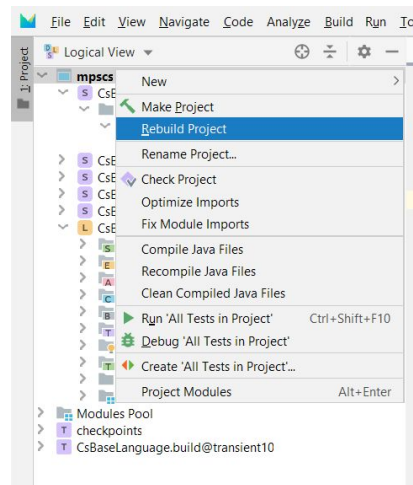
Figure 4.21: Rebuilding the mpscs project

After that, you should generate the TextGen aspect. For this, you will need the *TextGenGen* plugin. Please, visit the Marketplace, search for the plugin and install it. The procedure is the same as in case of the *LangDoc* plugin.

When you have the *TextGenGen* plugin installed and your MPS restarted, right-click the *CsBaseLanguage* item with the yellow icon, which you can see in the project explorer, and select *Generate TextGen*. See Figure 4.22 if you are unsure.
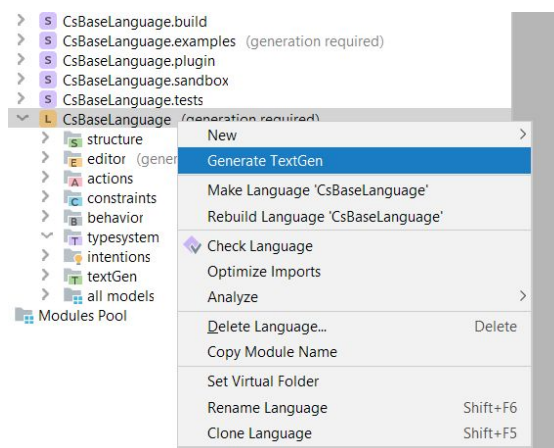

Figure 4.22: Generating TextGen

After generation of the TextGen aspect, you should rebuild the project once more. Right-click the project and select *Rebuild Project*.

Now you are ready to build the plugin. Please, expand the *CsBaseLanguage.build* item in the project explorer, right-click the shown *CsBaseLanguage* item with an icon of a spider and select *Run CsBaseLanguage* (see Figure 4.23). After a while, you should see a console output ending with a *BUILD SUCCESSFUL* message. This means that the plugin has been successfully constructed.
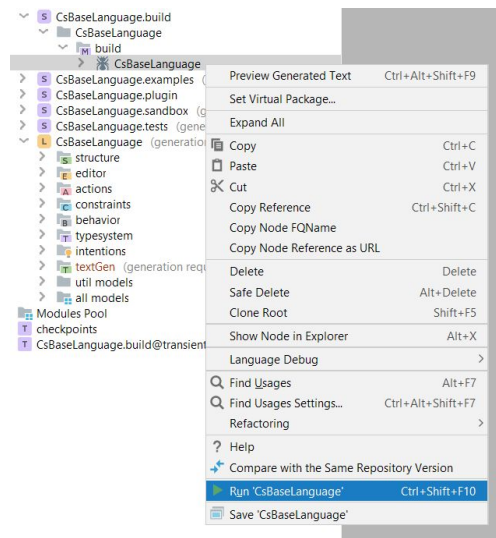
Figure 4.23: Building the C# base language plugin

You can find the plugin in the directory with the C# base language source code. Go to that directory and then to directories *CsBaseLanguage*, *build*, *artifacts* and *CsBaseLanguage*. There should be a ZIP archive called *CsBaseLanguage.zip* - this is the built plugin. Do not extract the archive, the plugin is the whole archive.

Now you should have a complete plugin, similar to what is distributed via the JetBrains MPS Marketplace.