

# Plugins

## Motivations

SocExplorer software doesn't do anything alone, it is supposed to work with plugin extending its functionality. The development of SocExplorer is based on the observation that most of the SOC's are structured around a central memory bus with a direct addressing, so if you can get a read and write access to this bus you can do anything you want on your SOC. But for the same SOC you can have different way to connect to it, with a serial port, a jtag port, the rmap protocol over SpaceWire... . On different SOC's you can use the same way to connect but you can have different layout or different peripherals list. To write less code we decide to make a plugin for each functionality and to use a hierarchical way to instantiate plugins. First you have to connect to your SOC with a compatible plugin we call the root plugin, this plugin will give the access for all its children plugins to the SOC. That's the first level of hierarchy, you can have more levels if for example on your SOC have a other memory bus you access from a bridge on the main one without direct addressing.

Note that you can also make fake root plugins if you just want to make plugin which can be instantiated alone, but doesn't provide any access to any child plugin.