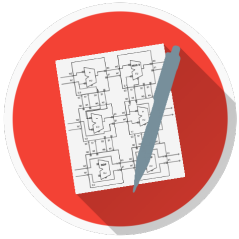
Documentation



CRC Configurator

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This document serves as documentation for the CRC Configurator.

If in doubt, use the source Luke.

Requirements

- `Java 1.8.0_40` or higher
- IntelliJ IDEA CE 2016.1 or higher

Compile

After cloning the repository from gitlab one has to compile the program into a `*.jar`. This is done by using IntelliJ IDEA CE 2016.

1. Open IntelliJ and click on *Import Project*
2. Choose the directory `idea` from the cloned repository and click on *OK*.
3. Choose *Create project from existing sources* and click on *Next*.
4. Set an appropriate *Project Name* (`crc_configurator`), make sure the file path is set to `crc_configurator/idea`, and click on *Next*. (Overwrite `.idea` when asked)
5. Click on *Next* two times in the library dialog. (Overwrite `idea.iml` when asked)
6. Choose the SDK (`Java 1.8.0_40` or higher) and click on *Next*.
7. Click on *Finish*.
8. Go to menu *File* → *Project Structure*.
9. Choose the *Artifacts*.
10. Click on the *+*-sign.
11. Choose *JAR* → *From modules with dependencies*.
12. Click on *OK* in the *Create JAR from Modules* dialog.
13. Click on *OK* in the *Project Sturcture* dialog.
14. Go to menu *Build* → *Build Artifacts...*
15. Choose Action *Build*.
16. Open a terminal and navigate to the cloned git repository.
17. In the git repository go to `idea/out/artifacts/idea_jar`
18. Rename the `idea.jar` to `crc_configurator.jar`.
19. Copy the `crc_configurator.jar` to a desired location.

Run

Go to the location of the `crc_configurator.jar` and execute the following command:

```
java -jar crc_configurator.jar
```

Usage

New File

To open a new CRC description file go to menu *File* → *New*. Set values for *Rows*, *Columns*, *Static Conf. Lines*, and *Dynamic Conf. Lines*, and click on *Create* to create the new CRC description file.

Set FU Functions

To set the possible FU functions for each PE go to the *Hardware Model* tab. Open the FU functions dialog for a PE by double clicking on the PE's FU. Check the checkboxes of the desired functions and click on *Save*. The enabled FU functions can be seen below each PE in the *Hardware Model* tab.

Configure a CRC

To create a configuration for a CRC choose one of the *Static Configuration* or *Dynamic Configuration* tabs. To choose a FU operation for a PE right click or double click on the name of the operation in the FU (default *NOP*). To choose if the FU should treat values as signed or unsigned right click or double click on signed/unsigned (default unsigned). To set the driver for a FU input or a PE output right click or double click on the gray pad next to the FU or arrows and choose a driver. To set no driver click on the checked item in the context menu while choosing a driver.

Edit a CRC

To change the dimensions (rows and columns) or the amount for static and dynamic configuration lines go to menu *File* → *Edit*. Set the desired values for *Rows*, *Columns*, *Static Config. Lines*, and *Dynamic Config. Lines* and click on *Apply*. **Caution:** If a value is decreased data will be lost.

CRC/PE Configuration Bits

To get the CRC/PE configuration bits go to menu *File* → *Export Bits*. The *Export Bits* dialog displays the bits for the Verilog parameters.