

Library Compiler by Synopsys

Synopsys requires a library file which describes the logic gates available for synthesis operations.

Go to your Synopsys working directory first.

```
cd ~/cad/synopsys
```

Copy the library file to your Synopsys directory by typing:

```
cp /home/cad/startup/EE6325/aux/library.lib .
```

Use "ls" command to check if "library.lib" is in your synopsys directory. This file contains logical descriptions and timing information for a set of logic gates (cells). The first time you use Synopsys, you probably won't have a cell library yet, so you should use this library as-is. The library file contains definitions for an inverter, nand2, nand3, nand4, nor2, nor3, aoi12, aoi22, oai12, oai22, and d-flip-flop. When you create a cell library in Cadence later on, you will need to modify the Synopsys library file to match your cells. If your cells differ from those in the library file, you may need to change cell names, pin names, and /or logical descriptions in the library file to match; this shouldn't be much of a problem if you pay attention to the Synopsys library file when laying out your cells in Cadence. Timing information is a more advanced subject, so you shouldn't change the given values, although you may want to experiment with changing the reported delays to match those of your cells if time allows.

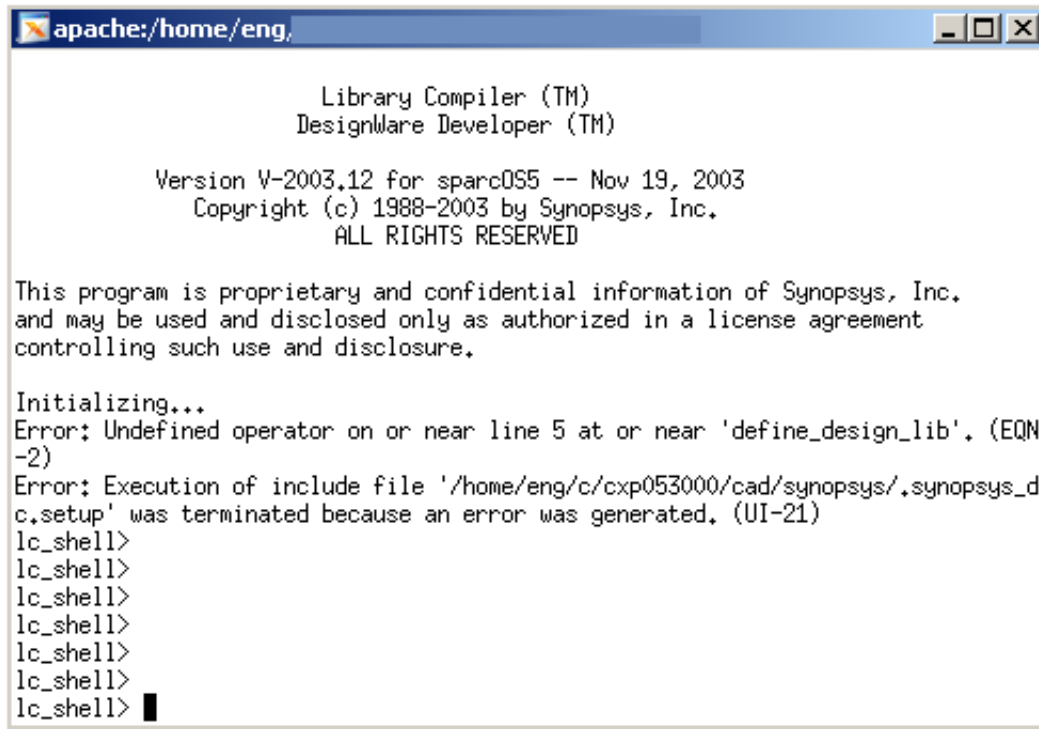
please source the below profile whenever you are using Synopsys tools

```
. /proj/cad/startup/profile.synopsys_2018
```

After making changes to the library file (if necessary), you will need to compile it into a database format suitable for Synopsys to use. Start the lc_shell compiler by typing:

```
lc_shell
```

NOTE: Ignore errors for now...Just keep moving on



```
Library Compiler (TM)
DesignWare Developer (TM)

Version V-2003.12 for sparcOS5 -- Nov 19, 2003
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Initializing...
Error: Undefined operator on or near line 5 at or near 'define_design_lib'. (EQN
-2)
Error: Execution of include file '/home/eng/c/cxp053000/cad/synopsys/.synopsys_d
c.setup' was terminated because an error was generated. (UI-21)
lc_shell>
lc_shell>
lc_shell>
lc_shell>
lc_shell>
lc_shell>
lc_shell>
lc_shell>
```

Now read and compile the library file by typing:

```
read_lib library.lib
write_lib library -format db -output library.db
```

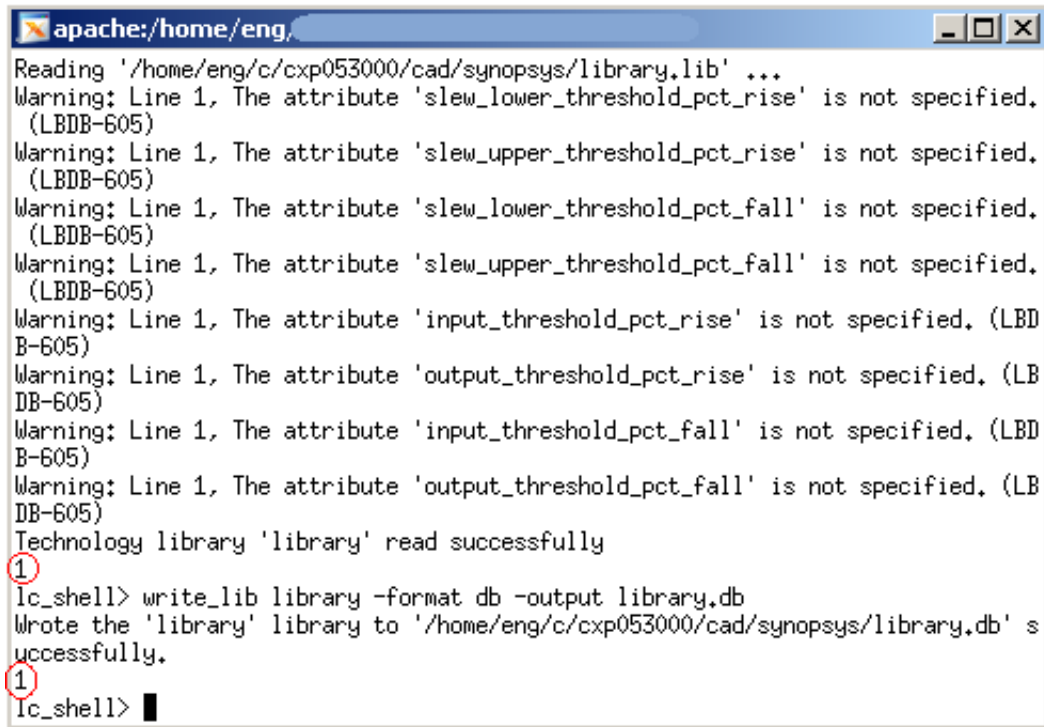
If it reports an error message like "library source file is not found", add your path before the library file name:

```
read_lib <your_path>/library.lib
```

or

```
read_lib ./library.lib
```

If the program is successfully reading your command, it will return **1**.



```
apache:/home/eng
Reading '/home/eng/c/cxp053000/cad/synopsys/library.lib' ...
Warning: Line 1, The attribute 'slew_lower_threshold_pct_rise' is not specified.
(LBDB-605)
Warning: Line 1, The attribute 'slew_upper_threshold_pct_rise' is not specified.
(LBDB-605)
Warning: Line 1, The attribute 'slew_lower_threshold_pct_fall' is not specified.
(LBDB-605)
Warning: Line 1, The attribute 'slew_upper_threshold_pct_fall' is not specified.
(LBDB-605)
Warning: Line 1, The attribute 'input_threshold_pct_rise' is not specified. (LB
DB-605)
Warning: Line 1, The attribute 'output_threshold_pct_rise' is not specified. (LB
DB-605)
Warning: Line 1, The attribute 'input_threshold_pct_fall' is not specified. (LB
DB-605)
Warning: Line 1, The attribute 'output_threshold_pct_fall' is not specified. (LB
DB-605)
Technology library 'library' read successfully
1
lc_shell> write_lib library -format db -output library.db
Wrote the 'library' library to '/home/eng/c/cxp053000/cad/synopsys/library.db' s
uccessfully.
1
lc_shell> █
```

Exit the lc_shell by typing:

```
quit
```

You should now see a db version of **library.lib** in your Synopsys directory as **library.db**.

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