### **Spyglass**

### **Graphical User Interface (GUI)**

#### **Start Spyglass GUI**

execute the following command

```
$ spyglass &
SpyGlass Explorer@ws37
                                                                                                                                                             - □ ×
                                  Help Design Setup Read Design
                                                                                     Analyze Results
                                                                                                                                                     SolvNet®
Import Source(s)
Read Design
                                                     SPYGLASS
III All Files
                                                                                                                                                                  Design Files
Constraints
Waivers
🔳 Tech Libs
III HDL Libs
         It is recommended to set environment variable SNPSLMD_LICENSE_FILE for faster license checkout.
 sg_shell>
```

#### Import Design

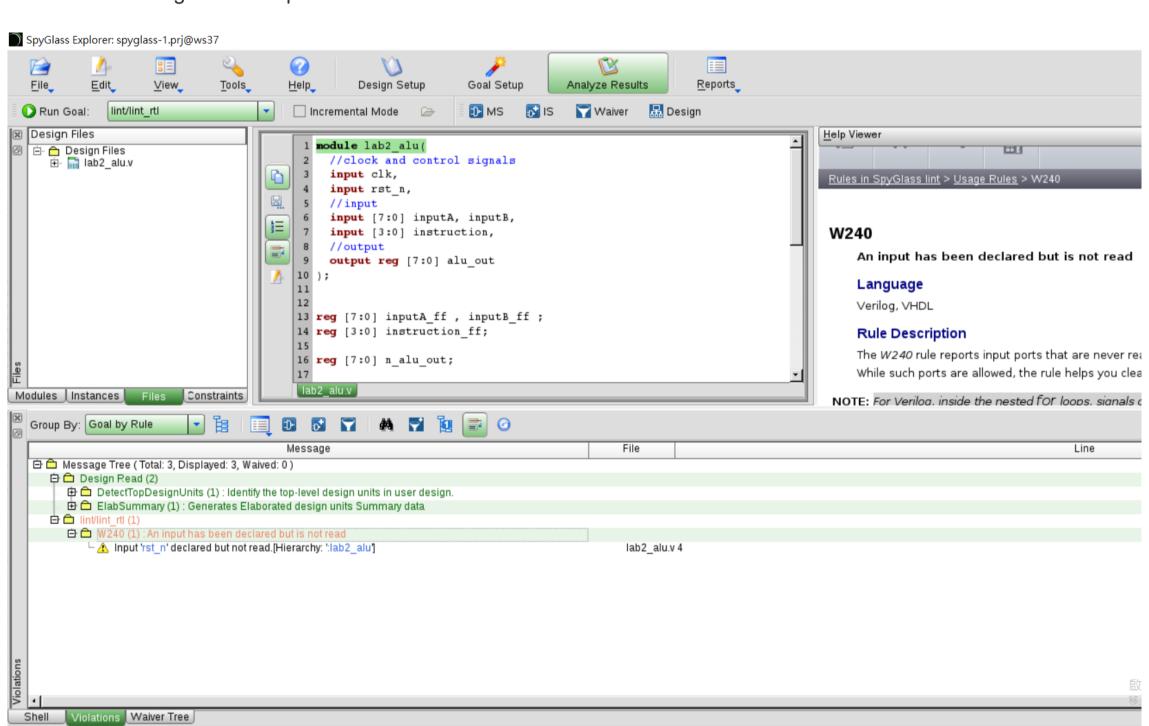
```
Add File(s)
1. Click Add Files
2. Change Files of type to HDL(*.v).
3. Select your own verilog code.
  (Note that we don't select testbench since we won't synthesize it in our design.)
                     Add
4. Click Add
5. You will see your design on right side.
                                                                   Goal Setup Analyze Results
                                         Design Setup Read Design
     - Add File(s)
                                                                                                                                       SolvNet®
     Import Source(s)
     Set Options
     all Files
                                                Look in: home/m107/m.../IClab/lab02 • 🕒 🔾 🗘 📰 🔳
     Design Files
                                                 Computer | INCA_libs
                                                 m107061 spyglass-1
                                                            lab2_alu.v
     Waivers
                                                             lab2_alu_test.v
     Tech Libs
    HDL Libs
             It is recommended to set environment variable
              SNPSLMD_LICENSE_FILE for faster license ch
      sg_shell>
                                                 File nam2. [lab2_alu.v
                                                 Files of type HDL(*.v *.verilog *.sv *.h *.vhd *.vhdl *.def)
                                                                              HDL Lib(s)
                                                                                                                                 OK Cancel
```

#### Goal Setup

```
Goal Setup
1. Click Goal Setup
2. Set the options as below.
                              Run Goal(s): 4/49
3. Click Run Goal(s)
   (Note that this step will take you a few minutes to run all the selected goals.)
                        <u>V</u>iew<sub>↓</sub> <u>T</u>ools<sub>↓</sub>
                                           Help_
                                                    Design Setup
     Run Goal(s): 4/49
     Methodology : GuideWare Reference Methodology for rtl_handoff stage of New RTL Block development
                                                                                                                                                 Select Methodology
                                                                                                                                 Prereq. Goal
       Not Run Yet
                                                                 Not Run Yet
       It is recommended to set environment variable SNPSLMD_LICENSE_FILE for faster license checkout.
        sg_shell> read_file -type verilog lab2_alu.v
       ERROR [276] '\rm -rf ./spyglass-1' (File :sg_shell_main.cpp ,Line :2439) : System Command could not be executed.
                      SpyGlass Internal System Error: rm: cannot remove './spyglass-1/.tmp_sg_current_goal': Directory not empty
        current_methodology: info: methodology is now `/usr/cadtool/cad/synopsys/spyglass/2018.09-sp2/SPYGLASS_HOME/GuideWare/latest/block/rtl_handoff'
       read_file: info: using default project `spyglass-1.prj'
       lab2 alu.v
      sg shell>
```

## **Analyze Results**

After running the lint check, you can see the analyze results of your design. Check what they means and try to solve all errors and warnings listed as possible.



You can check the detail report in project directory . For example , if you want to see report of lint\_rtl :

```
$ cd spyglass-1/lint/lint_rtl/spyglass_reports/
$ gedit moresimple.rpt &
```

For lint\_turbo\_rtl , you need to change you path to the following path :

\$ cd spyglass-1/lint/lint\_turbo\_rtl/spyglass\_reports/

```
Tcl Shell Interface
```

In general, we will use script written in tool command language (tcl) to run the CAD tool for convenience. In this part we will introduce the basic script for Spyglass to achieve the same goal.

# Writing your own script

\$ gedit moresimple.rpt &

```
$ gedit spy.tcl &

Write the command listed below , make sure that you know what they actually mean before using them .
```

```
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                                                                                         _ ×
# read file
read_file -type verilog lab2_alu.v
# goal setup (lint_rtl)
current_goal lint/lint_rtl -alltop
# run goal
run_goal
# create a report file and write report message to the file
capture moresimple_all.rpt {write_report moresimple}
# setup another goal
current_goal lint/lint_turbo_rtl -alltop
# run goal
run_goal
# append the report message to the same file created above
capture -append moresimple_all.rpt {write_report moresimple}
current_goal lint/lint_functional_rtl -alltop
run_goal
capture -append moresimple_all.rpt {write_report moresimple}
current_goal lint/lint_abstract -alltop
run_goal
capture -append moresimple_all.rpt {write_report moresimple}
# advance
#current_goal adv_lint/adv_lint_struct -alltop
#run_goal
#capture -append moresimple.rpt {write_report moresimple}
#current_goal adv_lint/adv_lint_verify -alltop
#run_goal
#capture -append moresimple.rpt {write_report moresimple}
                                                           Tcl▼ Tab 寬度:8▼ 第 9 行第 46 字 ▼
```

Execute the following command

```
$ sg_shell < spy.tcl</pre>
```

# Check report massage

Since we have generated all report massage in one file , you can just check them in the following file :

```
$ gedit moresimple_all.rpt &
```

You can also see detail report in the path we mentioned above .