

## Chapter 04 - OpenROAD first run - TRAINING - Common

Course authors (Git file)



## 1 Start the first run



# EDA tools

- One of the options of chapter 0 (preparations) is needed.
- Navigate to the `/flow` folder



# Enable the design in the Makefile

- Edit the Makefile:

- Uncomment the line with your chosen DESIGN\_CONFIG from ihp-sg13g2. For example the gcd design:

```
1 | DESIGN_CONFIG=./designs/ihp-sg13g2/gcd/config.mk
```

- Re-comment the previous uncommented line with DESIGN\_CONFIG. For example the gcd on SKY130 design:

```
1 | # DESIGN_CONFIG=./designs/asap7/gcd/config.mk
```

- The line with the default design does not need to be commented. This only applies when no previous line with DESIGN\_CONFIG is set.



# Run the flowscript

- Run `make` from inside the `/flow` folder.



# Success

- The chosen design should finish after a while and a lot of console output with a table (time/memory) like this:

	Log	Elapsed seconds	Peak Memory/MB
1	Log		
2	1_1_yosys	0	24
3	1_1_yosys_canonicalize	0	17
4	1_1_yosys_hier_report	0	12
5	2_1_floorplan	0	110
6	2_2_floorplan_io	0	106
7	2_3_floorplan_tdms	0	98
8	2_4_floorplan_macro	0	106
9	2_5_floorplan_tapcell	0	105
10	2_6_floorplan_pdn	0	108
11	3_1_place_gp_skip_io	0	108
12	3_2_place_iop	0	107
13	3_3_place_gp	0	320
14	3_4_place_resized	0	289
15	3_5_place_dp	0	112
16	4_1_cts	1	379
17	5_1_grt	0	340
18	5_2_route	93	899
19	5_3_fillcell	0	111
20	6_1_fill	0	113
21	6_1_merge	1	368
22	6_report	1	292