

## ENV setup:

For mixed signal designs - use this env setup:

<https://github.com/propy/conda-eda/releases/tag/v0.0-1406-ga734ede>

```
curl -L -O
https://github.com/propy/conda-eda/releases/download/v0.0-1399-g9288596/mi
xed-signal.gf180mcuc-0-Linux-x86_64.sh
bash mixed-signal.gf180mcuc-0-Linux-x86_64.sh -p silicon-env -b
source silicon-env/bin/activate
```

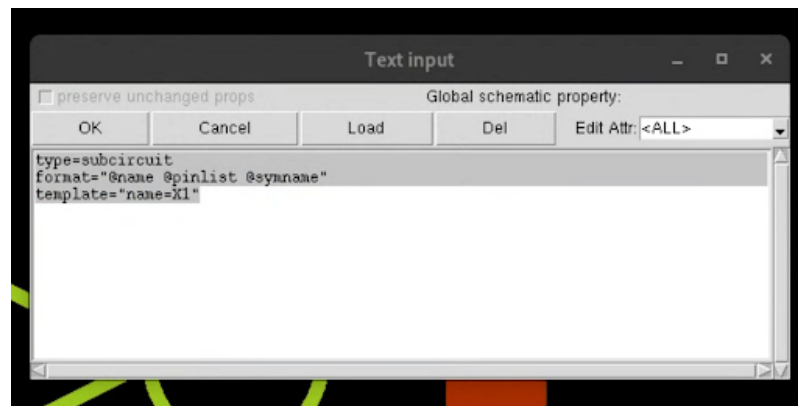
Open mixed signal env: `source silicon-env/bin/activate`

## Xschem hierarchy designs

While making symbol to set all the pin attributes -

Ref: [Creating a Hierarchical Schematic in Xschem](#)

1. Save the schematic in the same folder as the symbol. With **Same name**
2. Click outside design in empty space press q and write:



To traverse thru hierarchy - enter - E, exit out is ctrl E

*components-> devices/ Labpin* - is used to connects nets with same name at top level

## Post layout extraction

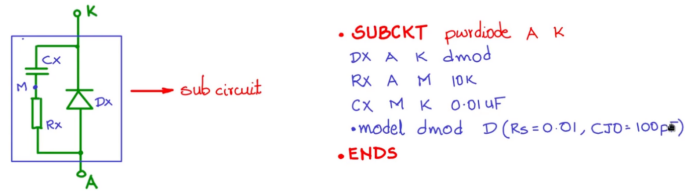
[Ngspice Tutorial: Extracting spice from Magic VLSI and running analog simulation](#)

extract all

Exttospice - creates spice netlist from layout

Subcircuit is created with extraction netlist

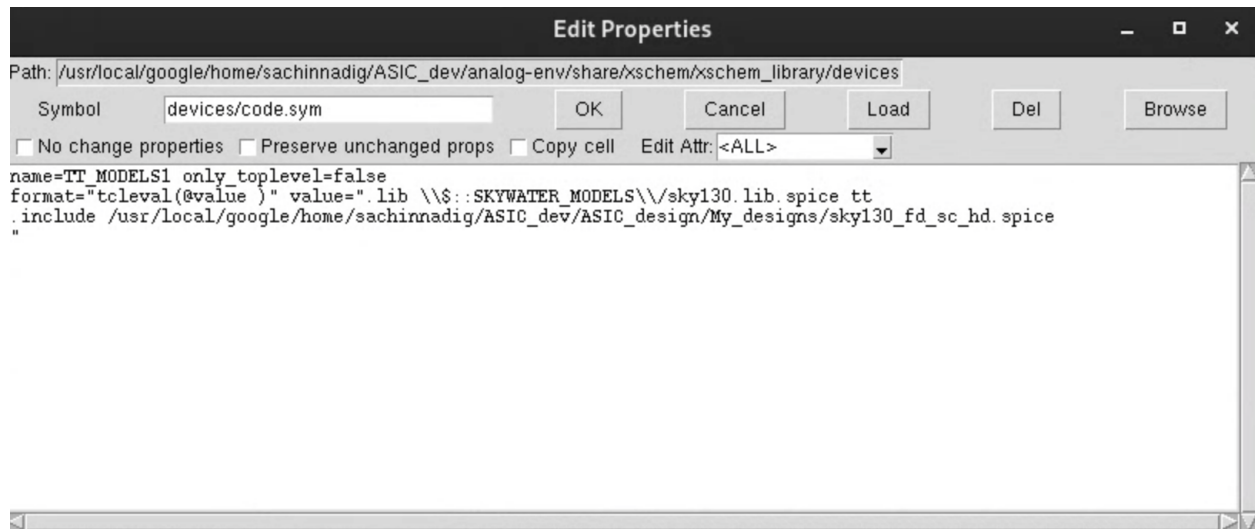
Example:



Calling a subckt: xInstance net1 net2 subckt name

Example: xD1 in out pwr diode

## Ngspice simulation env setup: tt model



Later, this is fixed in .sch to reflect directly in netlist file from propy's commit:

[https://github.com/spnadig/GF180\\_GAFE\\_1/pull/1](https://github.com/spnadig/GF180_GAFE_1/pull/1)

## Git notes

Git diff -> to check changes

Git checkout -b <branch name>

If pulling from main -> git checkout

Git branch -a -> shows all branch

Git status -> shows all the modified files

Git add <> -> files to commit

Git commit -m 'xxx'

git push origin <branch name> -> now I have main and a new branch on remote called origin

Note: git does not allow for push on remote if its http

Fix: git remote set-url origin [git@github.com:spnadig/GF180\\_GAFE\\_1.git](https://github.com/spnadig/GF180_GAFE_1.git)

Now gnubby to push and pull

Git fetch -> grabs reference locally but wont update

Git log origin/main -> shows all commits and changes

Git pull origin main -> to get changes into local

To undo local changes -> git stash -> git pull

## Klayout updates in env

conda install -c litex-hub klayout

## Ongoing designs:

[https://github.com/spnadig/GF180\\_GAFE\\_1](https://github.com/spnadig/GF180_GAFE_1)