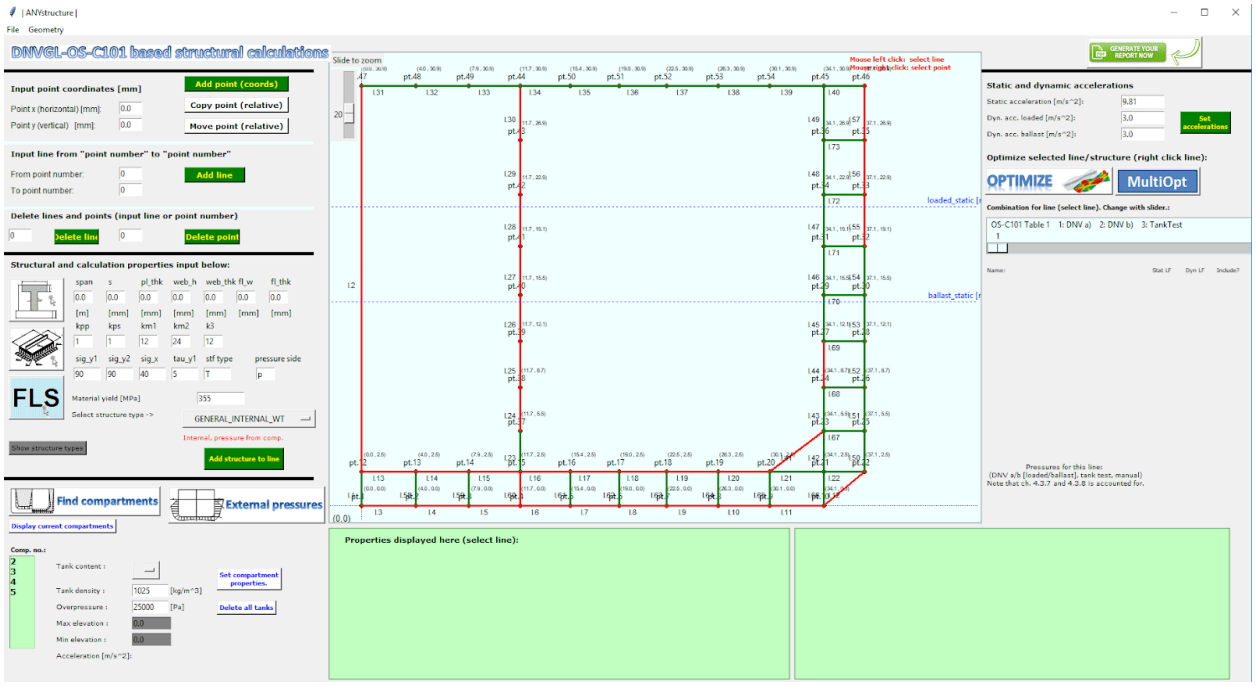
ANYstructure documentation



27.04.2018

Version 0.2.0

Modelling

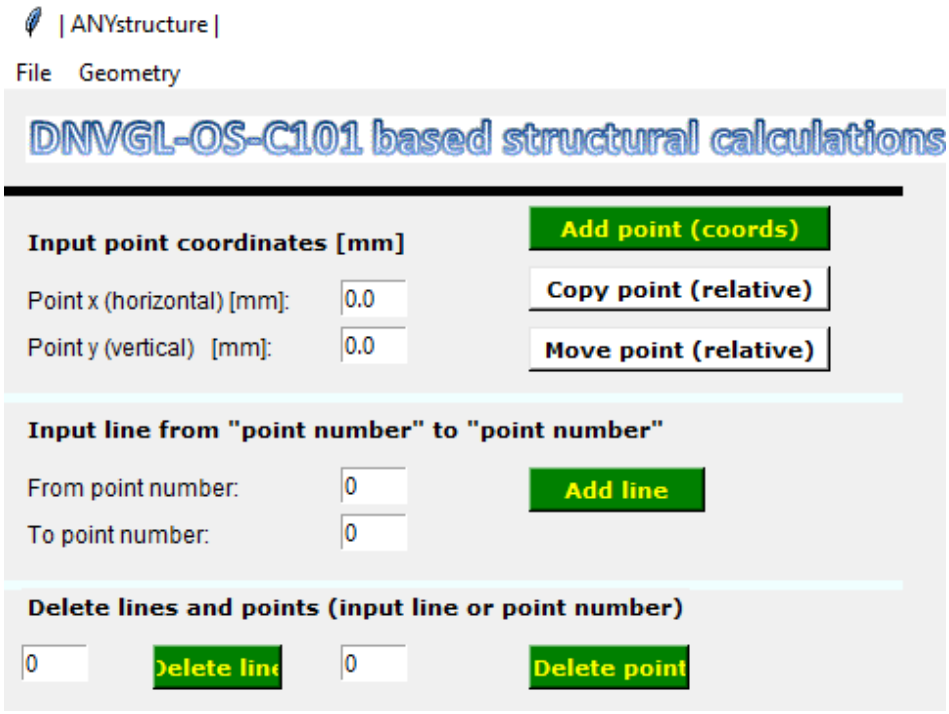
Modelling is done in upper left corner.

Right click: **select point**

You can copy or move the selected point by shortcut or clicking buttons.

Left click: **select line**

A line is made by right clicking two points (or input point number)



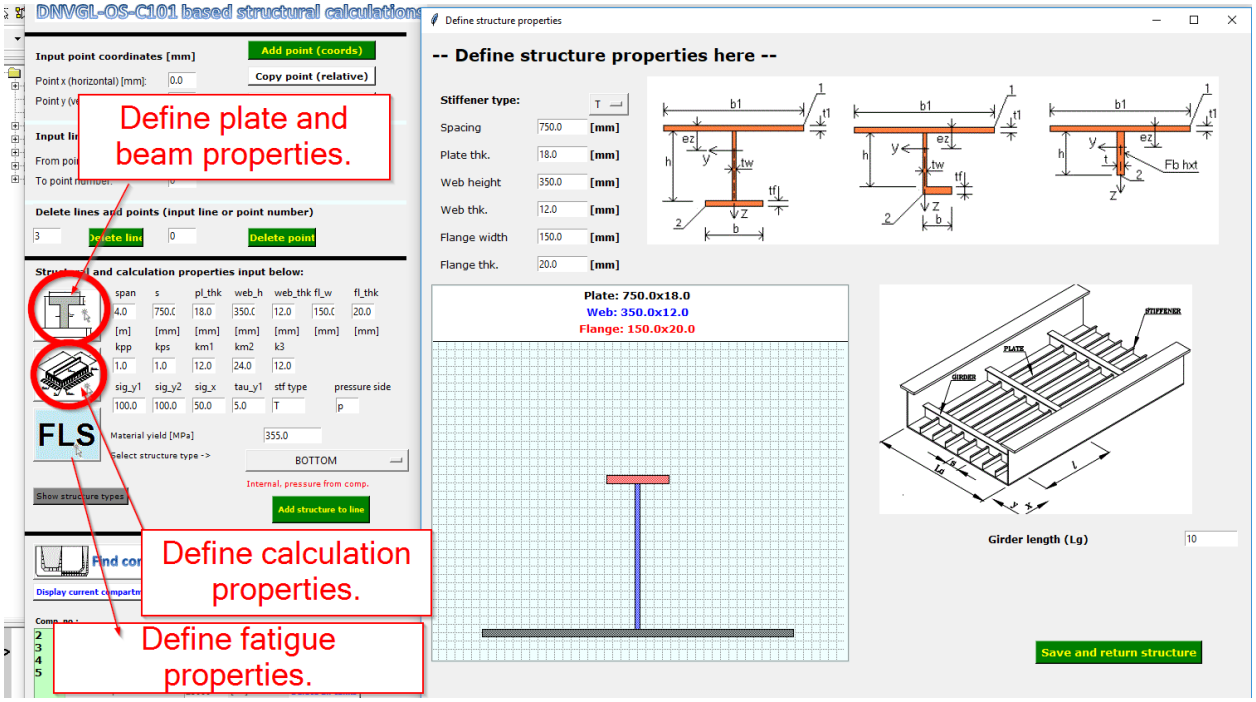
Speed up your modelling significantly by using the shortcuts:

CTRL-Z	Undo modelling
CTRL-C	Copy a selected point
CTRL-M	Move a selected point
CTRL-Q	New line between two selected points
CTRL-S	Assign properties to a selected line

Assigning properties

Input properties manually or click the button indicated below to set the values.

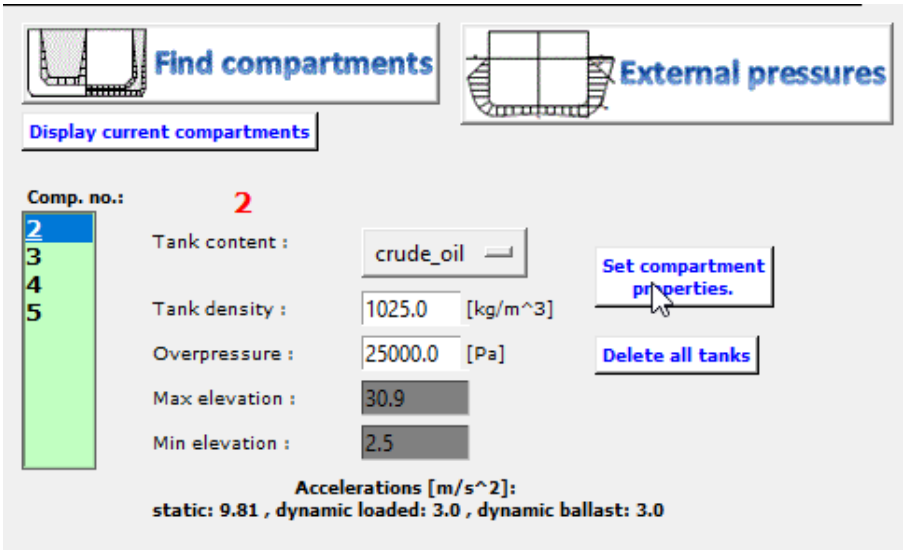
One values are set click “Add structure to line” to set the properties to the selected line.



Define tanks

Tanks are searched for when clicking “Find compartments”. Non watertight structure are ignored. For information on structure types click “Show structure types”.

Ather tanks are found content and overpressure must be defined as seen next.



Define external pressures

Click “External pressures” to define pressures acting on the structures.

NOTE:

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FOR DYNAMIC EQUATION THE FOLLOWING APPLIES

   X (horizontal) used for BOTTOM, BBT, HOPPER, MD

   Y (vertical) used for BBS, SIDE_SHELL, SSS
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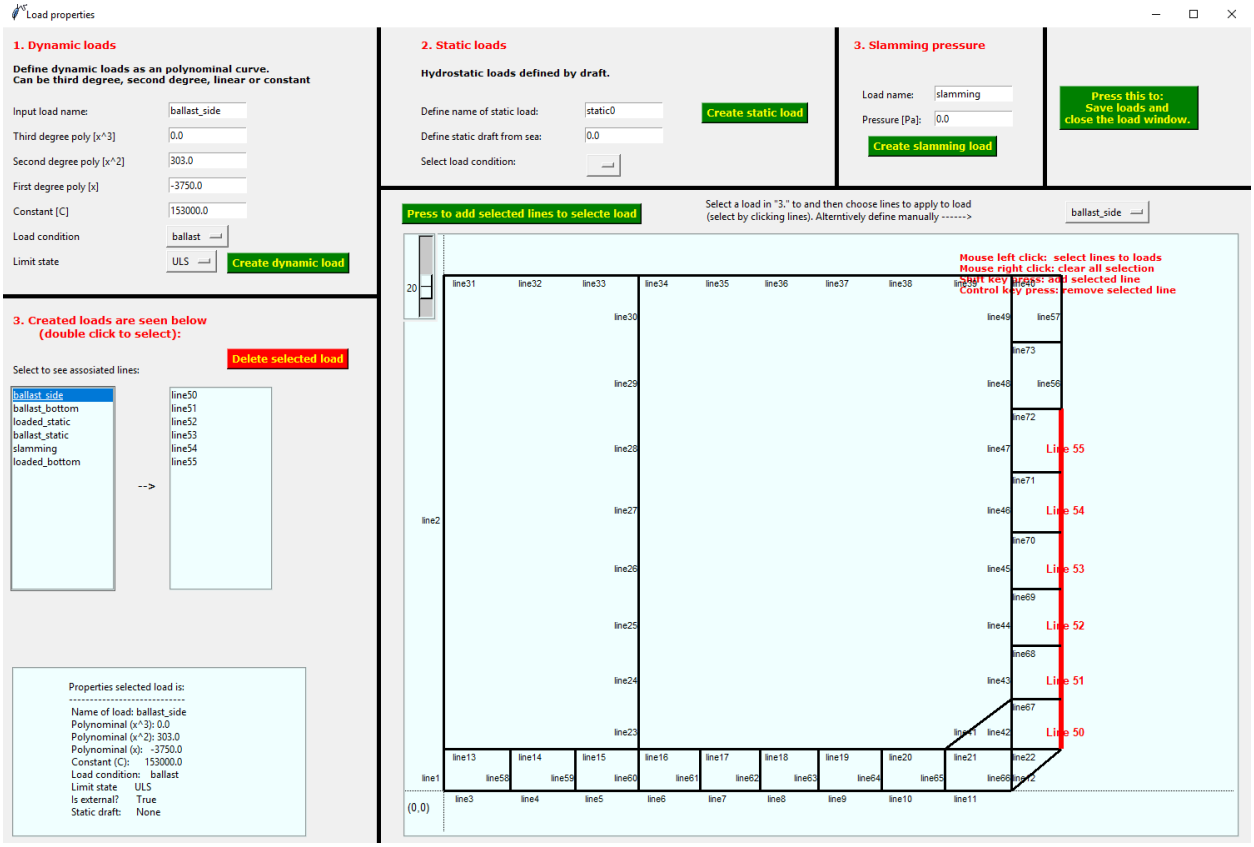
After new window is opened:

1. Make dynamic
    a. Dynamic loads are made by defining up to 3rd degree equations. X or Y direction depends on the defined structure type.
2. Static loads are calculated according to depth.
3. To apply a defined load to a line or multiple lines:
    a. Select load by clicking the created load
4. Click the lines that shall have the load. Click the button “Press to add selected lines to selected load”
5. When finished press the button in the upper right corner.



Load combinations

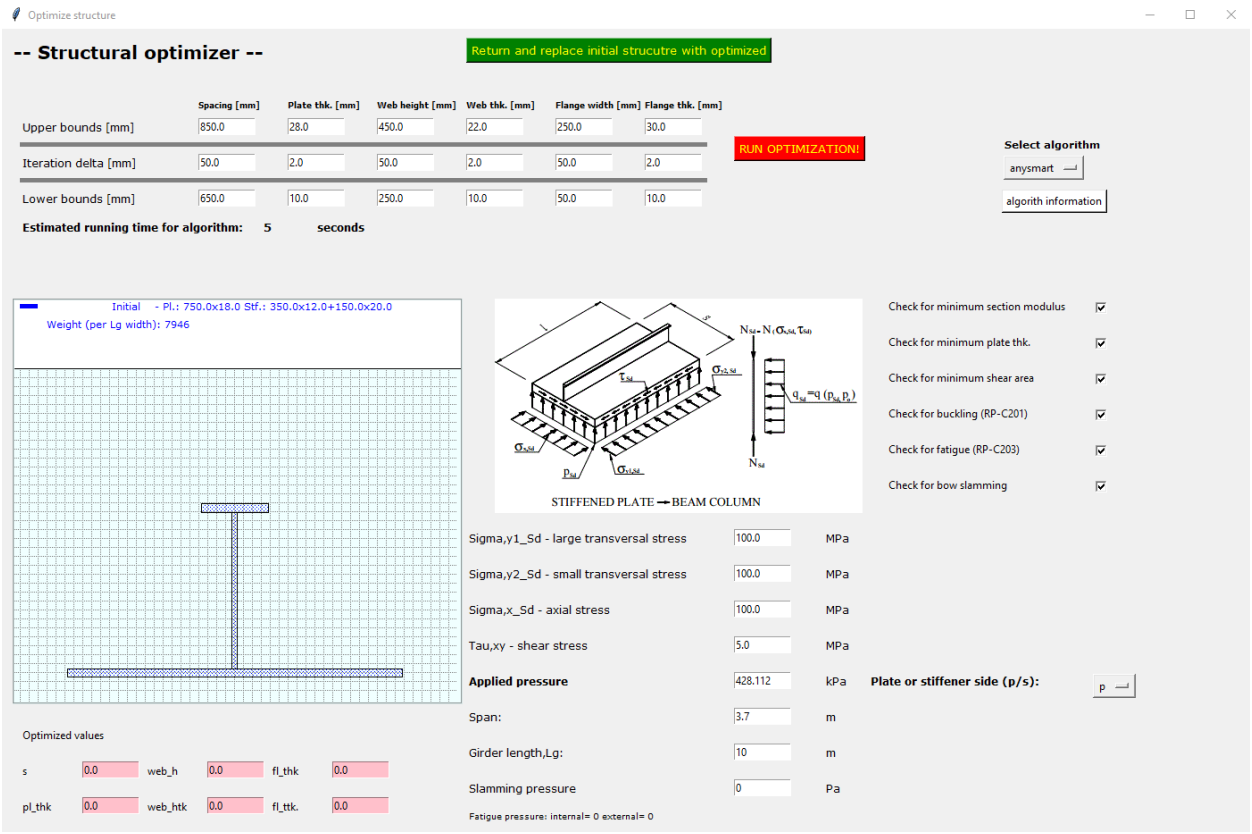
Load combinations are created automatically after external pressures are defined. Some comments on the loads.

- According to DNVGL-OS-C101
- Highest pressure are chosen w.r.t. tank filling.
- You can deselect a load by manually inputting load factor to 0 or deselect include.

Optimization

Single optimization is done by clicking a line and clicking the “OPTIMIZE” button.

1. Set the upper and lower bounds of the optimization.
2. Set the delta to be used for the searched. This is the step size of the optimization when using brute force method (for example anysmart).
3. Run the optimization.
4. I you are happy, return the properties by clicking the top button.



Multiple optimization is done by clicking the “MultiOpt” button.

1. Same input on upper bounds, lower bounds and delta.
2. Click all the lines you want to include in the optimization.
3. Run the optimization.
4. Check the properties by right clicking the line.
5. If you are happy return the properties by clicking the top button