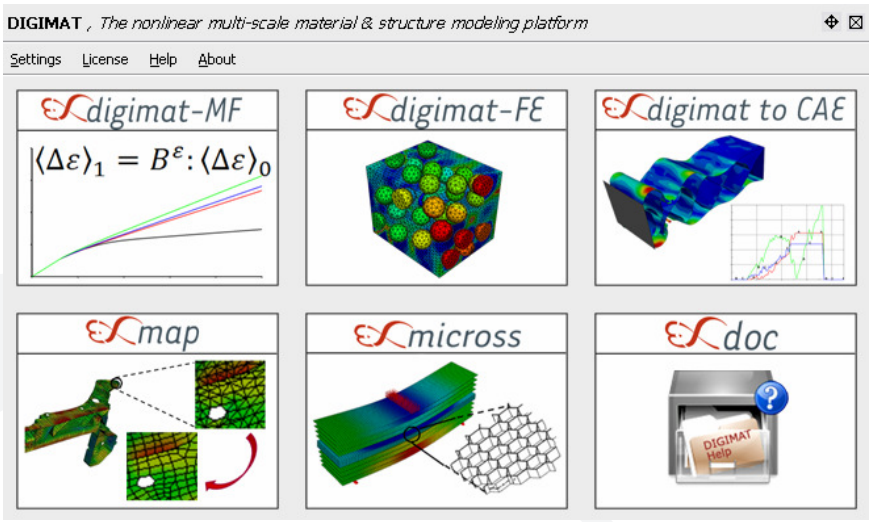
FAQ : How generate .STF file ?

Software *: DIGIMAT to CAE*
Release *: 3.0.1*
Keywords *: stf file, stiffness matrix*

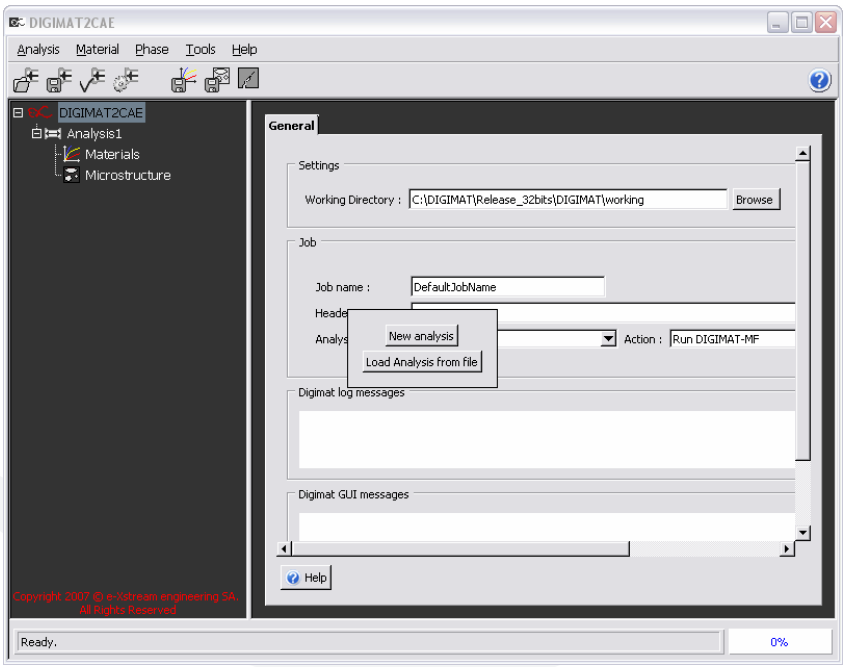
Please find here the step-by-step procedure to generate stf file for a given DIGIMAT material and a set of orientation file.

1. Start Digimat 3.0.1 by clicking on the icon 

. The plateform pops-up.



2. Click on the Digimat to CAE icon on the plateform. The following windows is then opened.



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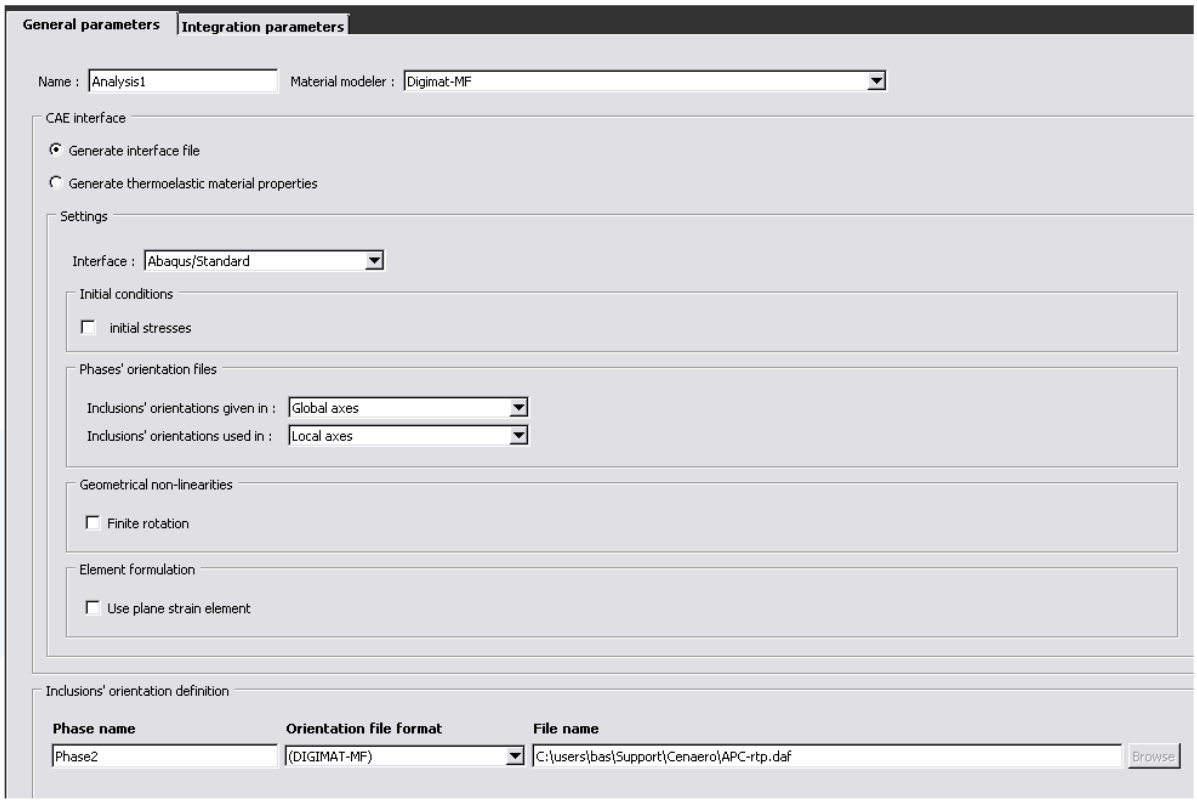
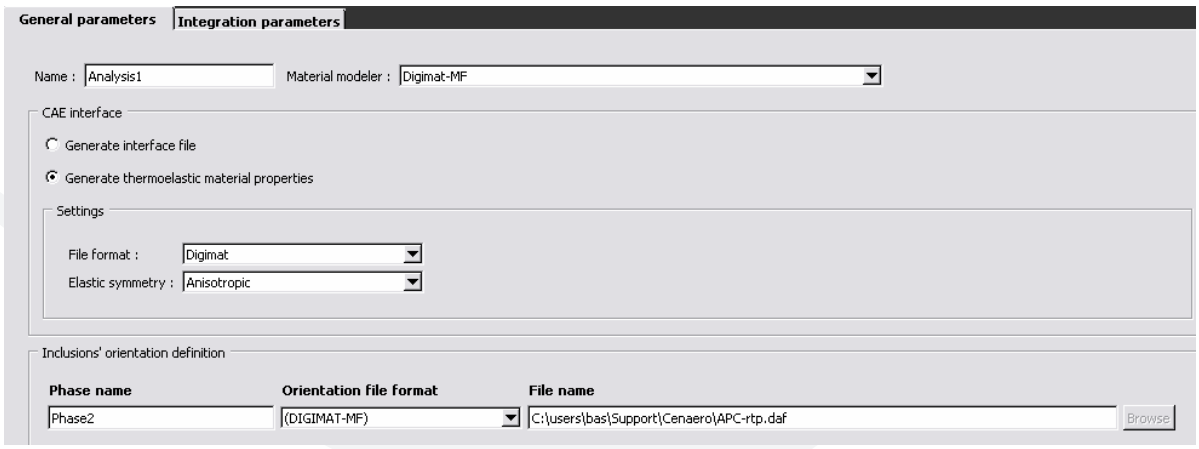
3. Click on ***load analysis file*** and select the .daf containing the definition of your composite material. The definition of your composite material must be performed in DIGIMAT-MF before to open DIGIMAT to CAE. You can see on left panel of DIGIMAT to CAE the definition of the matrix and inclusion of your material. By clicking on it you will be able to check their definition but you will not be able to modify the parameters of these models. To modify them, you have to go back to DIGIMAT-MF

4. Click on the ANALYSIS entry in the tree to access to the ***General Parameters*** tab.



5. Here toggle on the option ***Generate thermoeleastic material properties***.



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6. In the ***Settings*** section, only ***Digimat*** file format and ***Anisotropic Elastic symmetry*** are available at this moment.

7. In the inclusion's orientation definition, specify MOLDEX3D as orientation file format and browse to the file.

8. Then click on the icon  to generate the .stf file that will contains the stiffness matrix for every element defined in your orientation file. The stf file is generated in the working directory of DIGIMAT.

   In the .stf file, you will find the following information :

DIGIMAT Version 3.0.1 : Macro stiffness for Finite Element computations - 27/11/2007 13:14:00

Element-ID Layer-ID Int.Pt.-ID C1111 C1122 C2222 C1133 C2233 C3333 C1112 C2212 C3312 C1212 C1123 C2223 C3323 C1223 C2323 C1113 C2213 C3313 C1213 C2313 C1313

1 0 1 +4.4205e+003 +1.5327e+003 +3.1236e+003 +1.2028e+003 +1.1600e+003 +2.4916e+003 -1.1964e+002 -2.6267e+002 -1.4049e+001 +1.1943e+003 +2.5790e+001 +3.7110e+001 +1.9864e+001 -4.1696e+001 +8.3283e+002 -1.2580e+002 -4.2697e+001 -3.6319e+001 +2.5385e+001 -1.2113e+001 +8.6905e+002

2 0 1 +5.9017e+003 +1.1910e+003 +2.4895e+003 +1.2108e+003 +1.0520e+003 +2.5280e+003 -3.5937e+002 -3.7505e+001 -2.0843e+001 +8.5224e+002 +3.6664e+001 +4.9405e+001 -2.3944e+001 -4.1861e+000 +7.3037e+002 -6.7039e+001 -4.6045e+000 -1.3988e+001 +3.6360e+001 -1.8802e+001 +8.7173e+002

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