Notes on Running Openradioss on Windows

14th March 2023

Getting Openradioss running on windows is not well documented. Here are the steps I used to get it running on my system, with the help of Paul Sharp from Altair, who supplied a number of scripts.

Environment variables

Obviously Openradioss has to be able to find files, resources etc. Sample envvars.bat file looks like this.

	envvars	- Notepa	d							×
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set set set set set	OPEN RAD_ RAD_ KMP_ PATH PATH	RADIOS: CFG_PA H3D_PA STACKS =%OPEN =%OPEN	S_PAT TH=%0 TH=%0 IZE=4 RADIO RADIO	H=D:\Altai PENRADIOSS PENRADIOSS 00m SS_PATH%\e SS_PATH%\e	rWin64\F _PATH%\Ł _PATH%\@ xtlib\hm xtlib\ir	ROSS\Op nm_cfg_ extlib\ n_reade ntelOne	penRadioss\ _files \h3d\lib\win64 er\win64;%PATH eAPI_runtime\w	% %	%PATH%	~
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Ony my system I edited to be like this.

envvars.bat - Notepad2	_	\times
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1 set OPENRADIOSS_PATH=c:\OpenRadioss\		
<pre>2 set RAD_CFG_PATH=%OPENRADIOSS_PATH%\hm_cfg_files</pre>		
<pre>3 set RAD_H3D_PATH=%OPENRADIOSS_PATH%\extlib\h3d\lib\win64</pre>		
4 set KMP_STACKSIZE=400m		
5 set PATH=%OPENRADIOSS_PATH%\extlib\hm_reader\win64;%PATH%		
6 set PATH=%OPENRADIOSS_PATH%\extlib\intelOneAPI_runtime\win64;%PATH%		
٢		>
Ln 6 : 6 Col 68 Sel 0 297 bytes ANSI CR+LF INS Batch Files		



When you rum Openradioss you need to specify two files. One has the model in it and one has a bunch of control data. (Unless you run with LSDyna data, which will be covered later.) This is a sample.

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<pre>1 c:/OpenRadioss/exec/starter_ 2 c:/OpenRadioss/exec/engine_w</pre>	win64.exe /in64.exe -	-i tensile_ i tensile_L	LAW36_B AW36_BI	IQUAI QUAD_	D_0000.rad -nt 2 _0001.rad -nt 2	^
3 4						~
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Ln 1 : 4 Col 1 Sel 0	156 bytes	ANSI	LF	INS	Batch Files	:

Tensile_LAW36_BIQUAD_0000.rad contains the standard FE model input data. In this case the model was written in hypermesh.

tensile_LAW36_BIQUAD_0	000 - Notepad				- 🗆	\times
File Edit Format View	Help					
#RADIOSS STARTER						^
##						
##						
## Radioss Input Dec	k Generated by Hyper	Mesh Version : 2017.	2.2-HWDesktop			
## Generated using H	yperMesh-Radioss Tem	plate Version : 2017.	2.2_hotfix-HWDesktop			
## Date: 04-1/-2018	lime: 13:4/:54					
пт ##						
##						
##						
/BEGIN						
tensile LAW36 BIQUAD						
2017 0						
kg	mn	ms				
kg	mn	ms ms				
##						
##						
## Material Law No 2	. JOHNSON-COOK / ZER	ILLI-ARMSTRONG ELASTO	PLASTIC			
##		г. I. с. I		0 1 10 1		
#1 2 /MAT/DLAS_TAR/2		0 0 -	/ 0 -			
DP600 from SSAB Home	naga					
# RHO I	PuBc					
7.8E-6	e)				
# E	Nu	Eps p max	Eps t	Eps m		
210	.3	0	0	0		
<pre># N_funct F_smooth</pre>	C_hard	F_cut	Eps_f	VP		
1 0	e	0	0	0		
# fct_IDp	Fscale Fct_IDE	EInf	CE			
0	0 0	0	0			~
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			Ln 1, Col 1	100% Windows (CRLF)	UTF-8	

Tensile_law36_BIQUAD_00001.rad contains out data controls. This writes out the results file in Radioss ann format. To create a VTK file the converter needs the ann file.



tensile LAW36 BIOUAD	0001 - Notepad				_		×	٦
File Edit Format View	Help							
/VERS/2017	nep							
/RUN/tensile_LAW36	BIQUAD/1/							
40.0000000000000	_							
/ANIM/VECT/VEL								
/ANIM/SHELL/TENS/ST	RESS/ALL							
/ANIM/STELL/TENS/ST	KAIN/ALL							
/ANIM/DT								
0.000000000000000	0.500000000000000							
/PRINT/-500								
/TFILE/0								
0.010000000000000000000000000000000000								
0.0000000000000000	0.000000000000000	0.000000000000000	1	1				
/MON/ON								
/DT/NODA/CST/0								
0.900000000000000	0.000000000000000							
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This version of the file creates a Hypermesh H3D output file that can't be read by paraview.

tensile_LAW36_BIQUAD_0001	- Notepad					
File Edit Format View Hel	р					
/VERS/2017 /RUN/tensile_LAW36_BIQU 40.00000000000 /H3D/NODA/VEL /H3D/SHELL/TENS/STRESS/ /H3D/SHELL/TENS/STRAIN/ /H3D/SHELL/TENS/STRAIN/ /H3D/ELEM/EPSP/NPT=UPPE /H3D/ELEM/EPSP/NPT=LOWE /H3D/COMPRESS 0.01	JAD/1/ /NPT=ALL /NPT=LOWER /NPT=UPPER ER ER					~
/H3D/DT 0.00000000000000 0. /PRINT/-500 /TFILE/0 0.0100000000000 /STOP	. 500000000000000					
0.000000000000000000000000000000000000	.000000000000000	0.00000000000000000	1	1		
0.9000000000000000000000000000000000000	.000000000000000					~
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Typing runjob starts the Openradioss run.

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C:\OpenRadioss>set PATH=c:\OpenRadioss\\extlib\intelOneAPI_runtime\wi gram Files\Microsoft MPI\Bin\;C:\SIMULIA\Commands;C:\windows\system32 ystem32\WindowsPowerShell\v1.0\;C:\windows\System32\OpenSSH\;C:\Users ipts\;C:\Users\laure\AppData\Local\Programs\Python\Python39\;C:\Users	n64;c:\OpenRadioss\\extlib\hm_reader\win64;C:\Pro ;C:\windows;C:\windows\System32\Wbem;C:\windows\S \laure\AppData\Local\Programs\Python\Python39\Scr \laure\AppData\Local\Microsoft\WindowsApps;
C:\OpenRadioss>runjob	
C:\OpenRadioss>c:/OpenRadioss/exec/starter_win64.exe -i tensile_LAW36	_BIQUAD_0000.rad -nt 2 ***
**	**
**	**
** OpenRadioss Starter	**
**	**
** Non-linear Finite Element Analysis Software	**
**	**
**	**
**	**
** Windows 64 bits, Intel compiler	**
**	**
**	**
**	**
*** Committi: C0e0eae5uu/22D4a98D54ue48TaT838//02C5935	***
** OpenPadiece Software	**
** COPVRIGHT (C) 1986-2022 Altair Engineering Inc	**
** Licensed under GNU Affero General Public License	**
** See License file.	**
*****	***
UNITS SYSTEM	
CONTROL VARIABLES	
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Once we have run the solver we end up with a lot of animation files.

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\leftarrow \rightarrow \checkmark \uparrow \blacksquare \rightarrow This PC \rightarrow Windows (C:) → OpenRadioss			~ č	> Search OpenRa	idioss		
Name	Date modified	Type	Size					^
tensile_LAW36_BIQUAD_0001_0001	14/03/2023 11:05	RST File	1,365	(B				
tensile_LAW36_BIQUADA001	14/03/2023 11:04	File	187	B				
tensile_LAW36_BIQUADA002	14/03/2023 11:04	File	187	(B				
tensile_LAW36_BIQUADA003	14/03/2023 11:04	File	187 H	(B				
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tensile_LAW36_BIQUADA005	14/03/2023 11:04	File	187	B				
tensile_LAW36_BIQUADA006	14/03/2023 11:04	File	187	B				
tensile_LAW36_BIQUADA007	14/03/2023 11:04	File	187 H	(B				
tensile_LAW36_BIQUADA008	14/03/2023 11:04	File	187 H	(B				
tensile_LAW36_BIQUADA009	14/03/2023 11:04	File	187	B				
tensile_LAW36_BIQUADA010	14/03/2023 11:04	File	187	(B				
tensile_LAW36_BIQUADA011	14/03/2023 11:04	File	187	B				
tensile_LAW36_BIQUADA012	14/03/2023 11:04	File	187 1	(B				
tensile_LAW36_BIQUADA013	14/03/2023 11:04	File	187	(B				
tensile_LAW36_BIQUADA014	14/03/2023 11:04	File	187	(B				
tensile_LAW36_BIQUADA015	14/03/2023 11:04	File	187	(B				
tensile_LAW36_BIQUADA016	14/03/2023 11:04	File	187	(B				~
101 items								122 📼

Copy these into a directory and use the python script runscriptwin to convert them to vtk files. (I copied anim-vtk into the directory as I thought I needed to – check this.)



Results plotted in Paraview.



