

Knowledge Base

Information



Abaqus/CAE plug-in for XML-based save and import of session-specific settings

Portfolio / Domain: SIMULIA Abaqus Unified FEA / n/a
Product: n/a

QA Article: QA00000008543e
Last Update Date: 29.09.2020
Rating: 5.0
Views: 856

QUESTION

I have specified several settings in my Abaqus/CAE session - for example, I have saved several custom views and I also changed the curve refinement level for part display. Is there a way to save these (and other) settings so that I can apply them in a later session of Abaqus/CAE?

ANSWER

(The following applies to Version 6.7 and higher)

Session-specific Abaqus/CAE settings can be made persistent by saving to the database or exporting them to a file. The Abaqus/CAE plug-in application attached below provides the underlying functionality that allows you to save session-specific settings to a model database (.cae), output database (.odb) or a file in XML format. Specifically, it is a core module that other additional plug-in applications use to export and import session data using XML.

Note: Saving to model or output database is only available starting with Abaqus release 6.9. XML module version 1.6-1 or higher should be used for Abaqus Release 6.9. Older Abaqus releases should use XML module version 1.5-1.

The core module supplied in this Answer provides the common underlying manager for additional plug-ins that will export session-specific settings. In order to export (or import) Abaqus/CAE session-specific data to XML, download and install any or all of the following plug-ins:

Answer ID	Plug-in
3625	Abaqus/CAE plug-in to save default views
3662	Abaqus/CAE plug-in application to save curve refinement settings
3748	Abaqus/CAE plug-in to save material and section information
3753	Abaqus/CAE plug-in to save custom views
3811	Abaqus/CAE plug-in to save paths
3835	Abaqus/CAE plug-in to save XYData
3896	Abaqus/CAE plug-in to save sketch background images
4023	Abaqus/CAE plug-in to save profiles
4124	Abaqus/CAE plug-in to save display groups
4256	Abaqus/CAE plug-in to dump model and output database
4278	Abaqus/CAE plug-in to save viewer plot options

Table 1: Plug-ins that export and import session-specific data

Installation

To install the plug-in, save the attached archive file to one of the following directories:

`abaqus_dir\abaqus_plugins` where `abaqus_dir` is the Abaqus parent directory

`home_dir\abaqus_plugins` where `home_dir` is your home directory

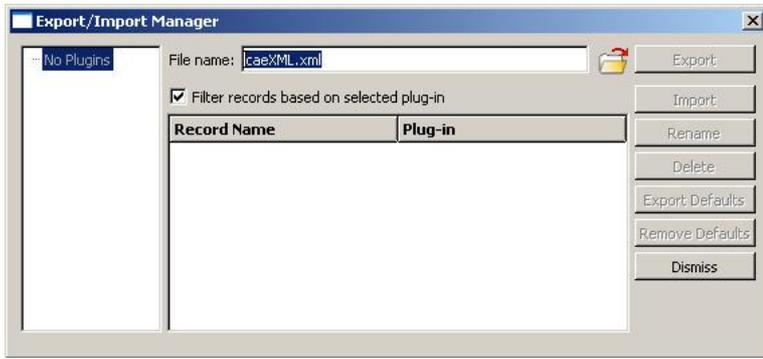
`current_dir\abaqus_plugins` where `current_dir` is the current directory

Note that if the `abaqus_plugins` directory does not exist in the desired path, it must be created. The `plugin_dir` directory can also be used, where `plugin_dir` is a directory specified in the `abaqus_v6.env` file by the environment variable `plugin_central_dir`. You can store plug-ins in a central location that can be accessed by all users at your site if the directory to which `plugin_central_dir` refers is mounted on a file system that all users can access. For example, `plugin_central_dir = r"\\fileServer\sharedDirectory"`

On Windows platforms, right click on the archive file and select **WinZip** → **Extract to here**. On Linux platforms, type `unzip caeXML.zip` at the command prompt. A folder named `caeXML`, sub-folders and a file named `caeXML_plugin.py` will be extracted. Note that the plug-in will not function properly if this procedure is not followed.

Usage

As stated above, the plug-in available in this Answer provides the foundation for the plug-ins listed in Table 1. If you have not installed any of the plug-ins listed in Table 1, you can still run the core module plug-in by selecting **Plug-ins** → **Export/Import Manager...** The following dialog is shown:



You can rename or delete records already present in an XML file, but you can not export or import XML data.

Output

This utility allows users to save objects in XML format to an XML-based file, model database or output database. If model database (MDB) is selected, the information is saved to the current model database. If output database (ODB) is selected, the information is saved to the specified output database. It does not matter what type of object are selected since the objects are exported in XML-format. Thus, model objects can be saved in the output database and vice-versa.

Records

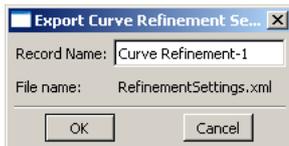
The core module plug-in allows you to save Abaqus/CAE data (objects) into XML format in the form of records. Each record contains a unique record name and the actual object that is exported. The record name serves to identify the object. Every time you export an object from Abaqus/CAE, a new record is created. Every time you import an object into Abaqus/CAE, you have to specify a record name to identify the object that you want to import. To avoid any ambiguity during importing, record names are restricted to be unique within an XML file or database. You can, however, have records with same name in different XML files or databases.

The following example uses some of the plug-ins from the table at the top to demonstrate the capabilities of the core module. Please refer to the respective plug-in Answer for additional details.

The following dialog shows the **Export/Import** manager when the **Curve Refinement** and **Save Views** plug-ins have been installed:

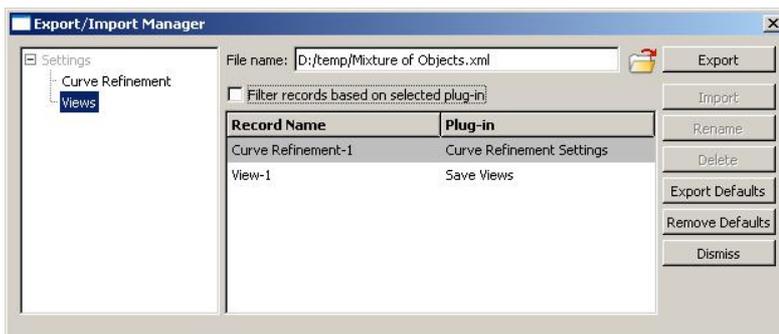


Expand the tree on the left column to see the list of objects that can be exported/imported to/from the XML data. If you select **Curve Refinement** and then the **Export** button, the following dialog appears:



A default record name will be provided, but you may change this. Select **OK**, and you should now see the record name and plug-in listed in the central pane of the dialog. Note that, for your convenience, the plug-in sets the default name of the XML file based on the object selected.

If you choose to export more than one object to the same XML file, then you must select the object from the left pane, select the file and choose export. In the following dialog, the file name Mixture Of Objects.xml contains **Curve Refinement** and **Views** records:



Note that **Curve Refinement** records are greyed out since **Views** is the active plug-in in the left pane. You can also use the **Filter records based on selected plug-in** check-box to hide/show all records that are not relevant to the current plug-in. Selecting record 'View-1' enables the **Rename** and **Delete** buttons, allowing for further editing of the records in the XML file. The performance may degrade with a large number of records stored inside a single XML file. If that happens then you are advised to use another XML file to store information

Future plug-ins will support additional Abaqus/CAE objects. If you require a specific object to be written to XML data, please speak with your local office and/or file an enhancement request (RFE).

Revision History

23 May 08	Version 1.3-2 of plug-in released.
18 Jun 08	Version 1.3-3 of plug-in released. Rename error message modified.
1 Jul 08	Version 1.3-4 of plug-in released. Minor enhancements to GUI and corrected a bug affecting damage property import of materials.
11 Aug 08	Version 1.4-1 of plug-in released. Added support for multiple objects export and import for some plug-ins. Minor enhancements to GUI.
25 Aug 08	Version 1.4-2 of plug-in released. Fixed an issue with custom views import in different viewports.
12 Sep 08	Version 1.5-1 of plug-in released. Added regular expression filter and made performance enhancements to the plug-in.
18 May 09	Version 1.6-1 of plug-in released. Support saving to model and output database. Available only in Abaqus release 6.9.
16 Sep 09	Version 1.6-2 of plug-in released. Support sub-folders structure.
17 Jun 10	Version 1.7-1 of plug-in released for 6.10.
28 Oct 10	Version 1.6-3 of plug-in released for 6.9 and 6.9-EF. Changed Menu and register file name to include "69".

XML plug-in and Abaqus/CAE Version Compatibility Matrix

Below is the information related to XML versions. Note that only the latest increment of each version is shown.

XML Module	Abaqus/CAE Version	Files Name
1.5-1	6.8 to 6.8-EF	caeXML_1_5-1.zip
1.6-3	6.9 to 6.9-EF	caeXML_1_6-3.zip
1.7-1	6.10 and up	caeXML_1_7-1.zip
1.8-1	6.14 and up	caeXML.zip

Disclaimer

The attachments to this article are subject to certain usage conditions. Please [click here](#) for details.

KEYWORDS

save, view, plug-in, persistent, load, import, export, display, xml, curve, refinement, part, settin

ATTACHMENT

[caexml_1_5-1.zip](#)
[Answer_3706_Fig4.jpg](#)
[Answer_3706_Fig2.jpg](#)
[Answer_3706_Fig1.jpg](#)
[Answer_3706_Fig3.png](#)
[caeXML.zip](#)
[caeXML_1_7-1.zip](#)

SUBSCRIBE TO CHANGES

RATING

On a scale of 1-5, how would you rate the technical content of the article?

Please rate this article...

LET US KNOW IF THIS ARTICLE NEEDS TO BE ENHANCED

[UNCLEAR](#)

[MISSING INFO](#)

[DUPLICATE](#)

[OUT OF DATE](#)

[ERROR DETECTED](#)

[See Comments \(2\)](#)