

Knowledge Base

Information



Abaqus/CAE plug-in to manage step dependent objects

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QUESTION

I have an Abaqus/CAE model with a large number of step dependent objects like field output requests, loads, boundary conditions, interactions and predefined fields. I would like to quickly create, edit and delete these objects from a central location. Is there a tool that can make these processes more efficient? Is it possible in Abaqus/CAE to manage all the step dependent objects within one manager-like dialog?

ANSWER

(The following applies to Abaqus 6.11 and higher)

An Abaqus/CAE plug-in for this purpose is attached below. The utility allows you to manage all the step dependent objects (propagation features) from one dialog. You can create, edit, delete, suppress, resume, activate and deactivate interactions, loads, BCs, field output requests and predefined fields.

Installation

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

`abaqus_dir\code\python\lib\abaqus_plugins` where `abaqus_dir` is the Abaqus parent directory

`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'
```

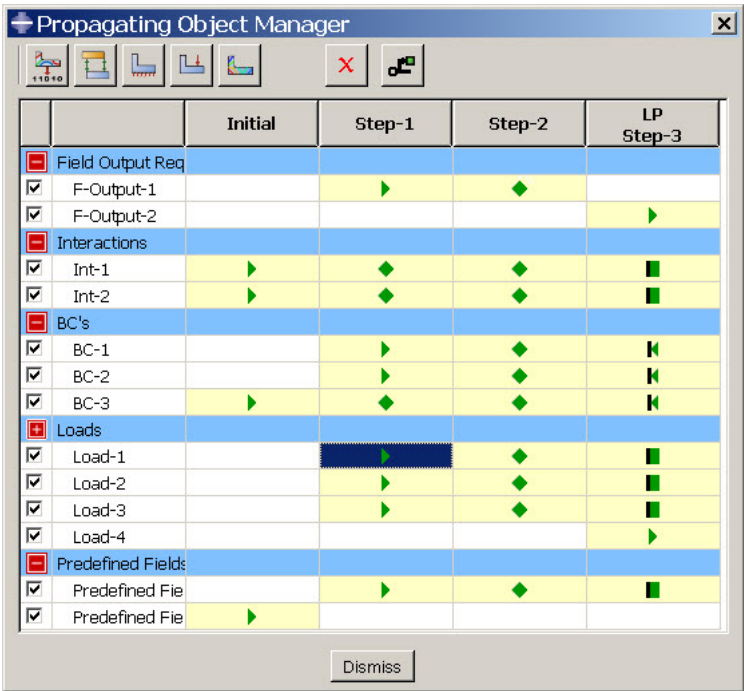
On Windows platforms, right click on the archive file and select **WinZip** → **Extract to here**. On Linux platforms, type **unzip statusTable.zip** at the command prompt. Folder named `abq_StatusTable` and a file named `statusTable_plugin.py` will be extracted.

Note that the plug-in will not function properly if this procedure is not followed.

Usage

Plug-in instructions:

1. Load the desired model in Abaqus/CAE and switch to the Assembly, Interaction, Load, or Step module.
2. Select **Plug-ins** → **Tools** → **Propagating Feature Manager** to receive the following dialog.



3. Create a feature by double clicking on the corresponding leading row and column colored in Blue.
4. Edit a feature in a particular step by double clicking on the corresponding row and column colored in Yellow.
5. Check or Uncheck the box on the first column to Suppress/Resume a particular feature. The row corresponding to a suppressed feature is shown in gray.
6. Delete a particular feature by right clicking on the corresponding row and column and selecting **Delete** in the popup menu.
7. You can Show/Hide features and perturbation steps using the buttons available at the top of the dialog.

8. Activate/Deactivate a particular feature by right clicking on the corresponding row and column and selecting **Activate/Deactivate** in the popup menu.
9. The features belonging to a particular object can be collapsed/uncollapsed using the "minus" and "add" icons in the first column (colored in red)

Notes

- The plug-in may have performance issues if the model contains a large number of step dependent objects.
- The plug-in does not support changing the status of the object other than activate/deactivate.
- Please do not select multiple columns while activating/deactivating the feature.
- Predefined fields cannot be activated/deactivated.
- Features cannot be edited in the Initial step.
- The icons are defined as follows:

Created	▶
Propagated	◆
Modified	✱
Deactivated	None
No Longer Active	None
Built Into Base State	■
Propagated From Base State	■

Disclaimer

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

KEYWORDS5000

ATTACHMENT

answer_5000_created.png

answer_5000_modified.png

answer_5000_propagated.png

answer_5000_fig1.jpg

answer_5000_propagatedfrombase.png

answer_5000_builtin.png

statusTable.zip

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