Altair HyperWorks Desktop 2019 Tutorials

HWD-0030: Report Generation and Automating Data

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HWD-0030: Report Generation and Automating Data

In this tutorial you will learn how to:

- Create and use report templates to automate the processing of animation, plot, and text data

- Overlay and append plot, animation, and video data with report templates

- Display and hide layers of data in plot windows

- Display and hide models in animation windows

Tools

To access the **Reports** panel:

- From the **Report** toolbar, click the **Open Reports Panel** button, 📈.

The **Flexible Report Templates** dialog allows you to add (append, replace, or overlay) predefined page sets in report templates to the current HyperWorks Desktop session. A report template automates the processing of different sets of similar data. Report templates contain a list of report definition statements that specify how to process results for testing or analysis data files.

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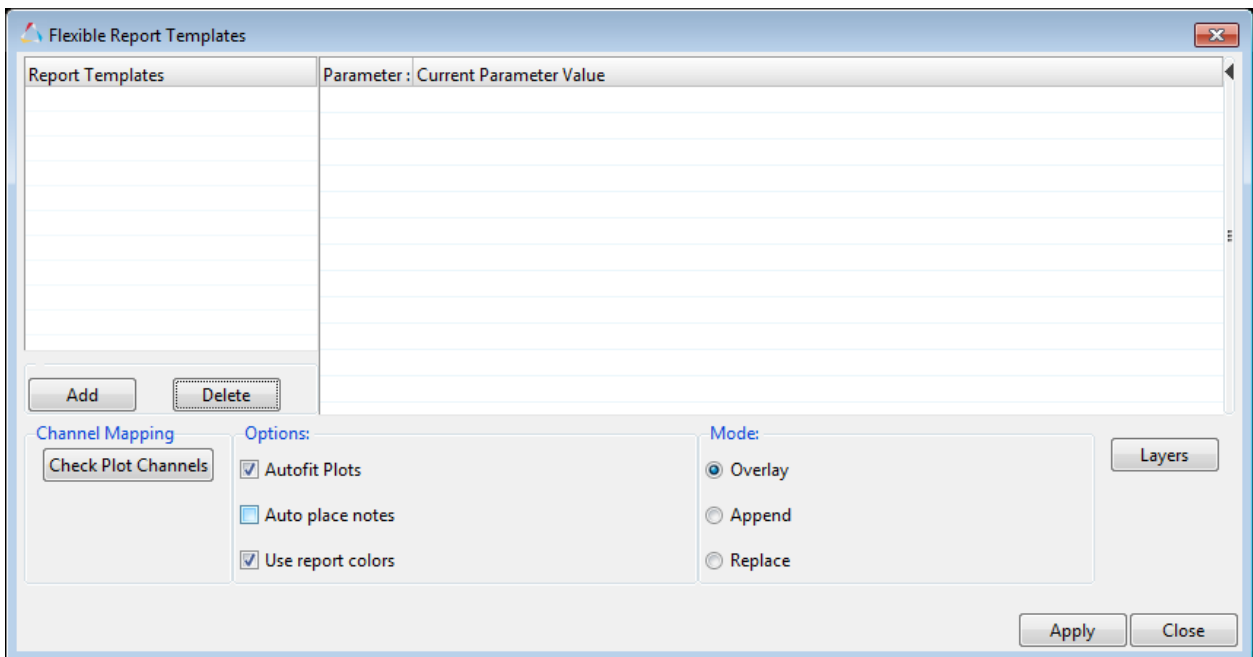
Exercise: Creating and Using a Report Template

This exercise uses the session file `airbag.mvw`, and also LS-DYNA input file and d3plot files from run two of the airbag analyses.

Step 1: Open session file `airbag.mvw` and save as a report template file.

1. Open the session file `airbag.mvw`, located in the `../tutorials/mv_hv_hg/animation` folder.

2. From the **Report** toolbar, select **Save As Report Template**, 🖫 , to open the **Save Report As** dialog.

3. Notice that **Save as type:** is set to **Report definition (*.`tpl`)**.

4. Save the report template file as `airbag_new`.

   When the report file is saved, the extension *.`tpl` is appended to the file's name if the extension is not already present in the filename.
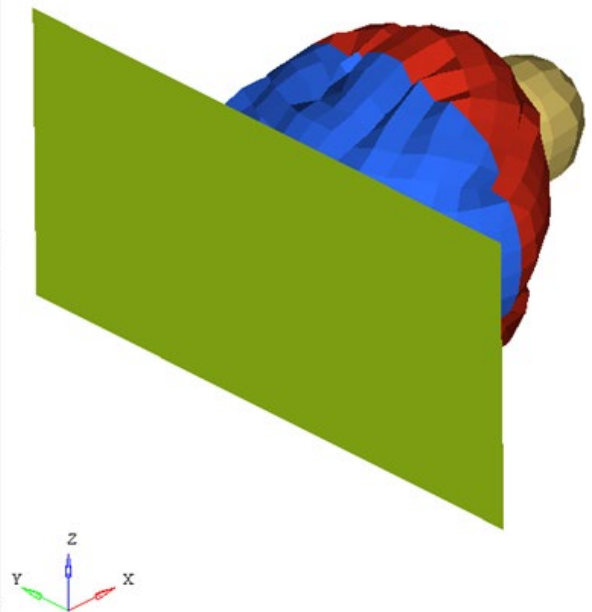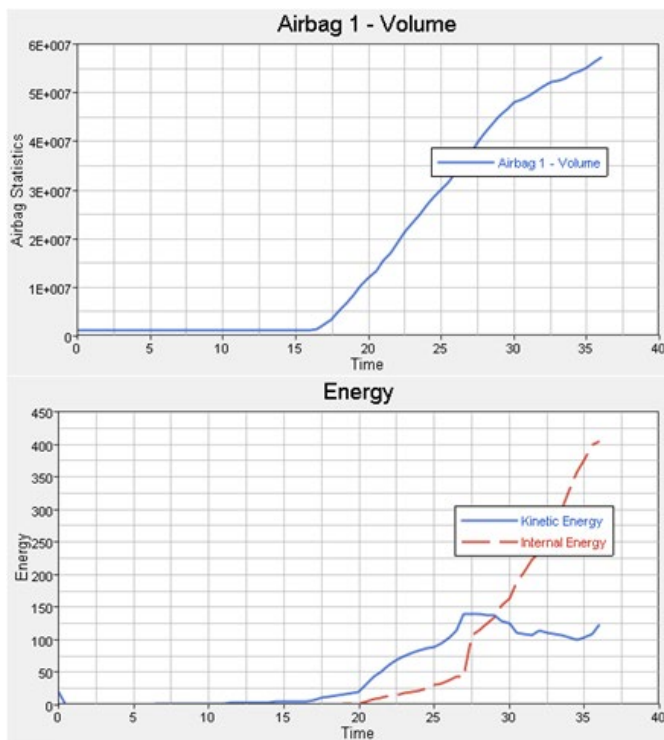
Step 2: Automate post-processing of results by using the report template.

1. Clear the contents of the session.

2. From the **Report** toolbar, click the **Open Reports Panel** button, 📈.

3. Verify that the `airbag_new` template is loaded and active under report definitions.

   If the template is not loaded follow the steps below:

   - Click **Add** to add a Report Template to the dialog.

   - Select `airbag_new.tpl` from the list of files and click **Open.**

   The template's four file parameters are listed in the middle of the panel. They represent the four data files used in the session (for run 1 of the airbag analysis) from which the report template was created. The parameter's default values are the names of the files used in the session.
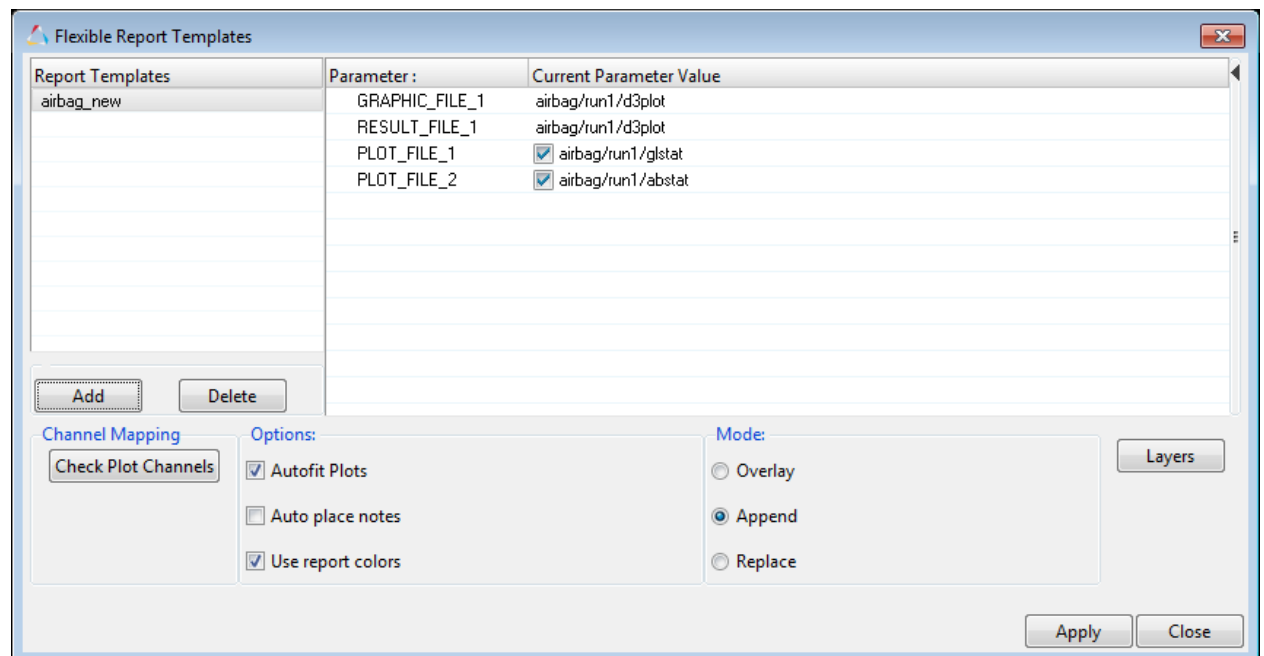

4. Click **Apply** to recreate the session (for run one of the airbag analysis) from the template.

5. For **GRAPHIC_FILE_1**, click the field under current parameter and click the browse button, and open the file `d3plot`, located in the `../tutorials/mv_hv_hg/animation/airbag/run2` folder.

6. To autofill the remaining files in the *Reports* panel, simply right click on file path next to **GRAPHIC_FILE_1** and select *Autofill directory*.
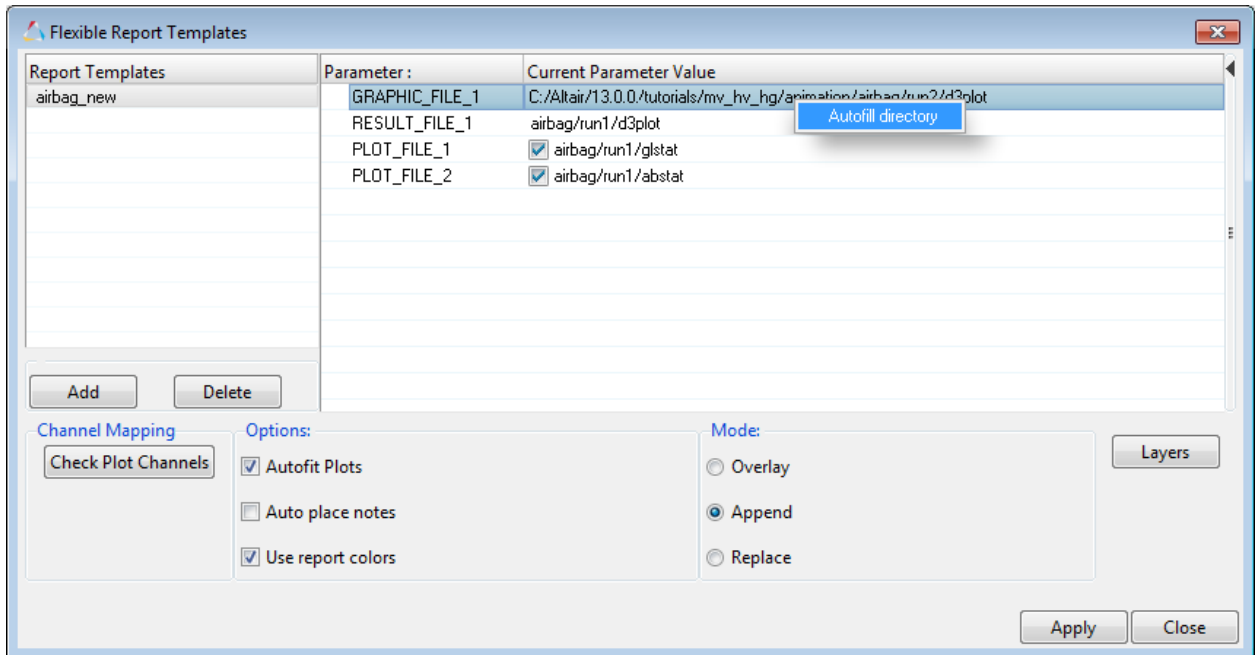
By selecting *Autofill directory*, the other files needed for this report template are updated to use the files in the selected directory.
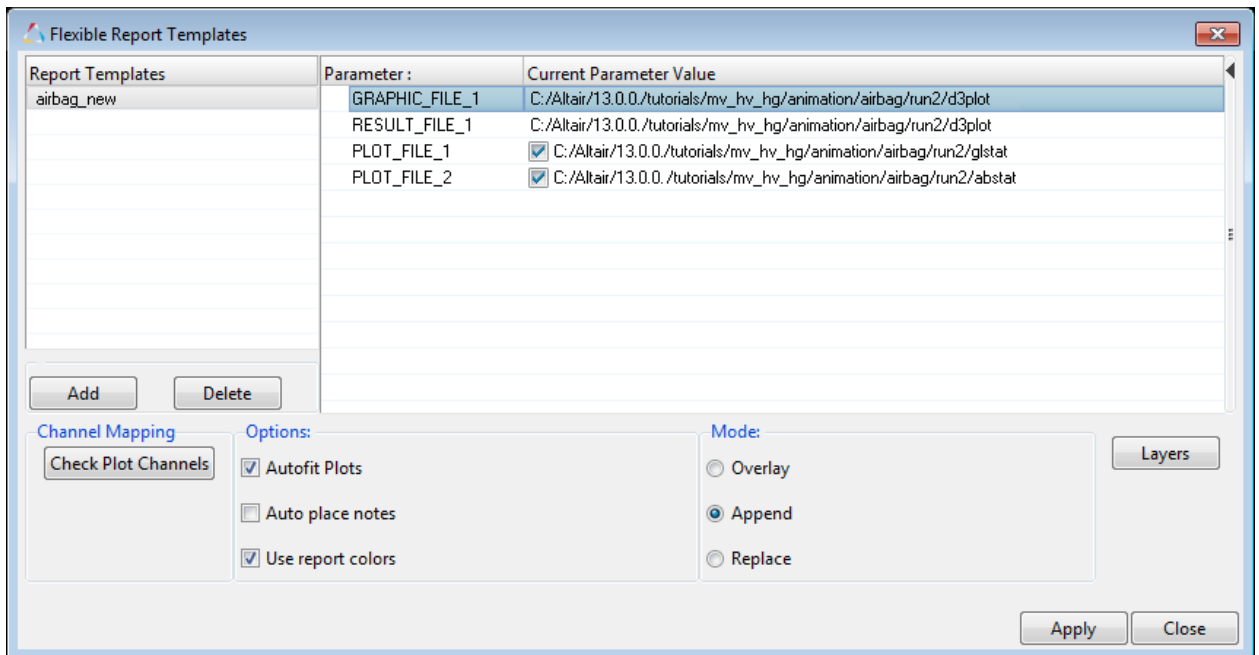
7. Under **Mode:** click the ***Overlay*** radio button

   Turn off the ***Use report colors*** option

   This option causes the curves to be plotted based on the default colors that HyperGraph has defined, rather than using the colors mentioned in the report template.   This allows for better visualization by causing the curves obtained from run2 to be of a different color from those of run1.

8. Click ***Apply*** to add data from run two of the airbag analyses to the session.
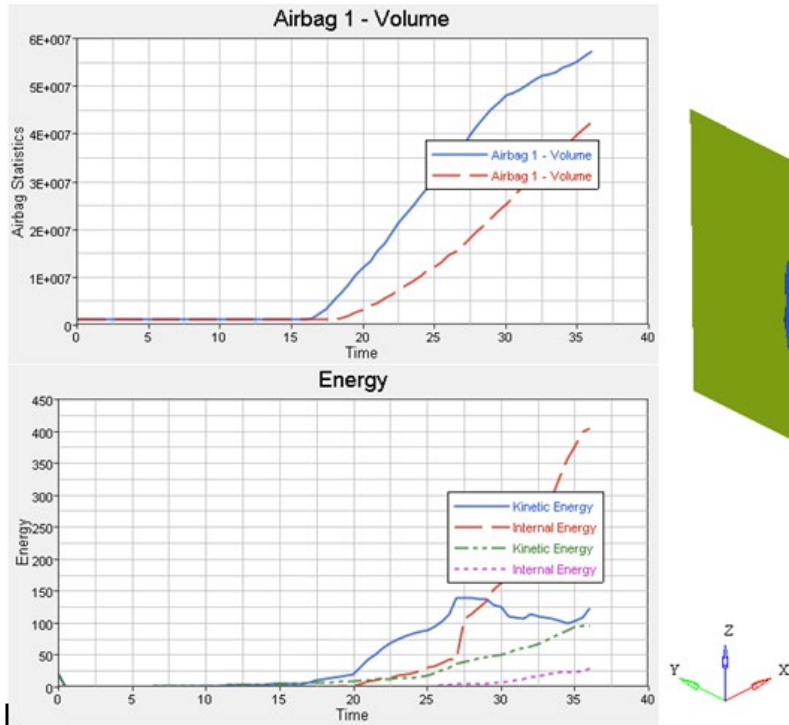
Step 3: Turn on and off curve layers in plot windows.

1. From the **Reports** dialog, click *Layers* to open the **Layers** dialog.
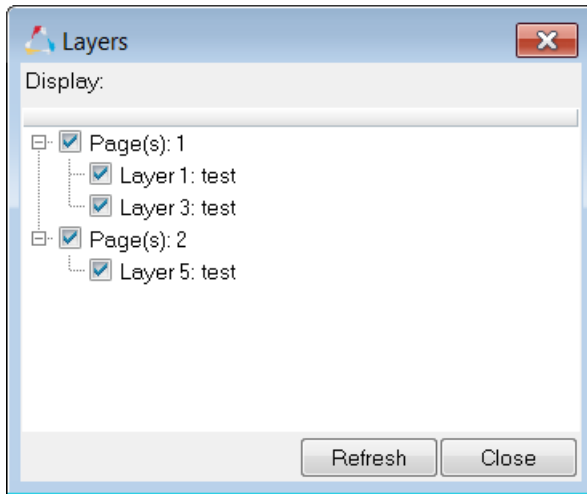
2. Select *Layer 1* to turn off the curves for run one of the analysis.

   The check mark in the **Layer 1** checkbox is not displayed when the layer is turned off.

   Note: Turning the layer off also turns off the display of the model for run 1 in the animation window.

3. Select *Layer 1* to display the curves for run one of the analysis.

4. *Close* the **Layers** dialog.