Manually Starting MSC Nastran and Uploading Results to the MSC Nastran SOL 200 Web App
Contact me

- Nastran SOL 200 training
- Nastran SOL 200 questions
- Structural optimization questions
- Access to the MSC Nastran SOL 200 Web App

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Manually Starting MSC Nastran for Local Optimization and Sensitivity Analysis
Optimization Type

1. The following procedure is only applicable if Local Optimization or Sensitivity Analysis is selected.
Export New BDF Files

1. Click on Exporter
2. Click on Download BDF Files
Perform the Optimization with Nastran SOL 200

A new .zip file has been downloaded

1. Right click on the file
2. Click Extract All
3. Click Extract on the following window

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Perform the Optimization with Nastran SOL 200

1. The BDF files are available
2. As an option, the folder “app” and file Start MSC Nastran” can be deleted
3. Start Nastran
4. Select ‘model.bdf’
5. Click Run

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Confirm the Optimization was Successful

1. An .f06 file has been created
2. Open the .f06 file in Notepad
3. Search the file for this message
   - RUN TERMINATED DUE TO HARD CONVERGENCE TO AN OPTIMUM

The message indicates the optimization was successful.

If performing Sensitivity Analysis, you may see this message instead:

- RUN TERMINATED DUE TO CASE CONTROL COMMAND DSAPRT(END=SENSITIVITY)

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Manually Starting MSC Nastran for Global Optimization
1. The following procedure is only applicable if Global Optimization is selected
Export New BDF Files

1. Click on Exporter
2. Click on Download BDF Files

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Perform the Optimization with Nastran SOL 200

A new .zip file has been downloaded

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2. Click Extract All
3. Click Extract on the following window
Files

1. Ensure that the following files have been downloaded
   1. model.bdf
   2. design_model.bdf
   3. GO.xml

2. As an option, the folder “app” and file Start MSC Nastran” can be deleted

NOTE: If you are using INCLUDE files, ensure the additional .bdf/.dat files are also present.
Before Starting

The following must be configured or known

1. Ensure the MSC_LICENSE_FILE environment variable has been set and restart the machine for the changes to go into effect
   • In this example, the location of the license is 27500@bender. The license location will vary.

2. Track the location of the msc20180.exe file. Note this file is for MSC Nastran version 2018.0. Your version may be different. The file will be named differently depending on the version of MSC Nastran. Below is the location for this example:

C:\MSC.Software\MSC_Nastran\20180\bin\msc20180.exe

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Open the Command Prompt

1. Navigate to the location of the GO.xml file:
   cd Downloads/nastran_working_directory

2. Supply this command and hit enter to start the Global Optimization:
   C:\MSC.Software\MSC_Nastran\20180\bin\msc20180.exe MultiOpt GO.xml

3. MSC Nastran has been started and will perform the Global Optimization.

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Manually Starting MSC Nastran for Multi Model Optimization
Perform the Optimization with Nastran SOL 200

A new .zip file has been downloaded

1. Right click on the file
2. Click Extract All
3. Click Extract on the following window

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Files

1. The necessary BDF files and MMO.xml file are available.

2. As an option, the folder “app” and file Start MSC Nastran” can be deleted.

NOTE: If you are using INCLUDE files, ensure the additional .bdf/.dat files are also present.

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Before Starting

The following must be configured or known

1. Ensure the MSC_LICENSE_FILE environment variable has been set and restart the machine for the changes to go into effect
   - In this example, the location of the license is 27500@bender. The license location will vary.

2. Track the location of the msc20180.exe file. Note this file is for MSC Nastran version 2018.0. Your version may be different. The file will be named differently depending on the version of MSC Nastran. Below is the location for this example:

   C:\MSC.Software\MSC_Nastran\2018\bin\msc20180.exe

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Open the Command Prompt

1. Navigate to the location of the MMO.xml file:
   cd Downloads\nastran_working_directory

2. Supply this command and hit enter to start the Multi Model Optimization:
   C:\MSC.Software\MSC_Nastran\2018\bin\msc20180.exe MultiOpt MMO.xml

3. MSC Nastran has been started and will perform the Multi Model Optimization.
Manually Uploading Results
Navigate to Results

Optimization Type

A. Recall that the Optimization Type can be set in the Settings section

The Results section has a separate page for each Optimization Type

1. Click Results

2. If performing Local Optimization, click on the Local Optimization (.f06) link. If performing Sensitivity Analysis, click on the Sensitivities (.csv) link. Remember, each Optimization Type has its own Results page.
Upload the Results File

1. A new page is opened
2. Look at the file extension
3. Click Select Files and select a file with the indicated file extension
4. Click Upload Files

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Review Results

The results are displayed.

This is the Local Optimization Results page. Special considerations must be made.

1. Ensure the messages shown have green checkmarks. This is indication of success. Any red icons indicate challenges.

2. The final value of objective, normalized constraints (not shown) and design variables can be reviewed.

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