
AIMMS Tutorial for Professionals - Auxiliary Project Files

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Part II

Model Declarations

Chapter 4

Auxiliary Project Files

In this chapter you will find instructions on how to install the auxiliary files that are needed to complete this tutorial. In addition, the process to import model sections and pages is explained.

This chapter

4.1 Directory structure

You are advised to use Windows Explorer to first create a dedicated folder in which to store your AIMMS projects, and then create a subfolder to store the particular AIMMS project of this tutorial. Figure 4.1 serves as an illustration.

Creating folders



Figure 4.1: A selection of subfolders

There are several files that you will need or find convenient while building the AIMMS project described in this tutorial. Among these files are:

Auxiliary project files

- a text file containing example project data,
- an MS Access database containing project data,
- a DLL with a function external to AIMMS,
- several bitmaps for the end-user interface,
- a number of model sections for possible import,
- a number of cases and datasets for possible import,
- all end-user pages for possible import,
- a user menubar and toolbar also for possible import, and
- a copy of this tutorial in PDF format.

On request you can obtain a copy of the auxiliary project files listed above as well as a copy the completed tutorial project. You can also download the files yourself from

Download the auxiliary project files

<ftp://ftp.aimms.com/pub/Projects/AIMMSTutorialProjectFiles.exe>

The executable will install a 'Tutorial' directory with 'Softdrink Planning - Auxiliary Files' and 'Softdrink Planning - Completed Project' as subdirectories within the existing AIMMS directory. If the OS is Windows 7, "Program Compatibility Assistant" may prompt after installing, in this case, please select "Reinstalling using recommended settings" option. Then in the directory 'Tutorial\Softdrink Planning - Auxiliary Files', you will find eight subdirectories. Please copy these eight subdirectories from the AIMMS directory to a newly created 'Softdrink Planning' project subdirectory.

Copying the relevant subdirectories

The directory structure of your project should now look like the one shown in Figure 4.2.

Directory structure

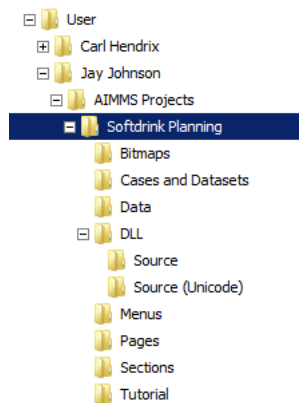


Figure 4.2: The structure of the tutorial project directory

4.2 External project files

The 'Data' subdirectory should contain three files. The file 'Softdrink Planning.mdb' contains a MS Access database containing the input data required in this tutorial, the file 'Softdrink Planning.dsn' specifies a ODBC File Data Source that AIMMS uses to connect to the MS Access database, and the third file 'Locations.dat' contains some example data that will be used in Chapter ??.

Data subdirectory

The 'Dll' subdirectory of your tutorial project should contain a file 'External Routines.dll' and a subdirectory 'Source' for ASCII based systems, and a file 'External Routines (Unicode).dll' and a subdirectory 'Source (Unicode)' for Unicode based systems. The DLL file contains a function that is external to AIMMS, but that can be called from within AIMMS using the external function concept. The 'Source' or 'Source (Unicode)' subdirectory of the 'Dll' directory contains the Microsoft Visual C++ 6.0 project that has been used to create the 'External Routines.dll' or 'External Routines (Unicode).dll' file.

*DLL
subdirectory*

The 'Bitmaps' subdirectory contains several bitmap files that you will use when developing the end-user interface. These bitmaps will enhance the appearance of your end-user interface. The following files are available:

*Bitmaps
directory*

- 'AIMMS Logo.bmp'
- 'Background.bmp'
- 'Button Next.bmp'
- 'Button Prev.bmp'
- 'Button Up.bmp'
- 'Netherlands.bmp'

4.3 Importing model sections

When working through the several chapters of this extensive tutorial for professionals, you may arrive at a point where you want to skip some of the work required from you. In this case you can bypass your own entries, and import one or more model sections to continue with the tutorial in a more advanced state.

*Importing
serves a need*

The 'Sections' subdirectory contains several model section files for possible import:

*Sections
subdirectory*

- 'Absentee Overview.amb'
- 'Data Management.amb'
- 'Database Link.amb'
- 'DLL Link.amb'
- 'Planning Overview.amb'
- 'Production Overview.amb'
- 'Production and Maintenance Model.amb'
- 'Quantities and Units.amb'
- 'Rolling Horizon Procedures.amb'
- 'Scenario Overview.amb'
- 'Softdrink Planning Menubar.amb'
- 'Time.amb'
- 'Transport Overview.amb'

When you import the Quantities and Units section (equivalent to the model section that is created in Section ??) into your model, all the identifiers that you normally would have created in Section ?? will be part of your model. Note that at this point in the tutorial you should not execute any import step. The actions described below are really for later reference when there is a need to import.

Illustrating the import process

- ▶ select the Quantities and Units in the model tree,
- ▶ from the **Edit** menu, select the **Import** command,
- ▶ select the file 'Quantities and Units.amb' in the **Import Model Section** dialog box, and
- ▶ press the *Open* button.

At this point a **Confirm Import** dialog box will appear as in Figure 4.3. This dialog box lists the changes as a consequence of the planned import. To confirm, you should press the *OK* button.

Confirming import

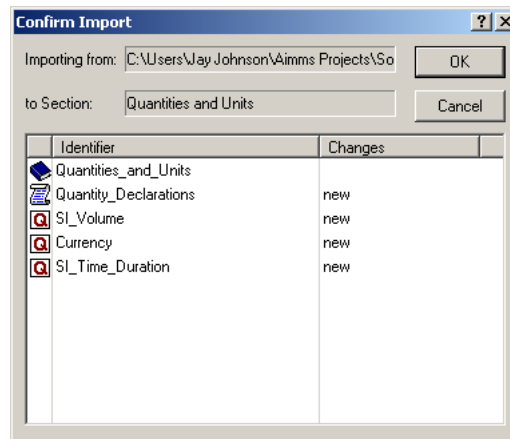


Figure 4.3: The **Confirm Import** dialog box

To verify that the import step is correctly executed, one can inspect the contents of the Quantities and Units section in the **Model Explorer**.

Verifying a successful import

4.4 Importing end-user pages

Developing an end-user interface usually takes a lot of time. In this tutorial only the essentials of the pages in the end-user interface are described. Several details, such as drawing objects to make the page more appealing and the exact size and position of the page objects, are not provided. You have a choice: either draw the page objects as you want them, or import the pages as prepared for this tutorial.

Developing pages

The 'Pages' subdirectory should contain the following page files:

Pages directory

- 'About Softdrink Planning.pag'
- 'Absentee Overview.pag'
- 'Background Bitmap.pag'
- 'Contents.pag'
- 'Locations.pag'
- 'Navigation Buttons.pag'
- 'Planning Overview.pag'
- 'Production Overview.pag'
- 'Scenario Overview.pag'
- 'Transport Overview.pag'

After you have created your own *Production Overview* page as in Chapter ??, you could import the corresponding page file to compare or even swap with your own page. To achieve this, the following steps should be performed:

Illustrating the import process

- ▶ press the *F9* key to open the **Page Manager**,
- ▶ select the **Import** command from the **Edit** menu,
- ▶ select the file 'Pages\Production Overview.pag' from the **Import Pages From** dialog box,
- ▶ press the **Open** button, and
- ▶ press the **Import** button in the **Import Page File** dialog box (see Figure 4.4).

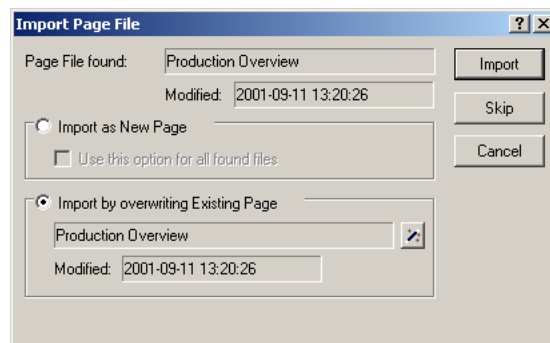


Figure 4.4: The **Import Page File** dialog box

The 'Import as New Page' option is appropriate when you want to compare your own page with the page to be imported. On the other hand, if you want to replace an existing page by an imported page, you should select the 'Import by overwriting Existing Page' option and then use the wizard to select the page to be overwritten.

Once the import step has been successfully completed, you can verify that the new page is now contained in the **Page Manager** as shown in Figure 4.5.

Inspecting the Page Manager

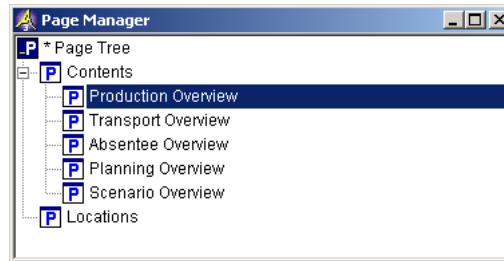


Figure 4.5: The **Page Manager** with the imported end-user page

4.5 Importing cases and datasets

To save time and effort while completing this tutorial, you may want to import data instead of entering or computing these data. The results of several runs of the rolling horizon process have been saved in cases that are available for import. In addition, the specification of the holidays and vacation weeks can be avoided by importing the corresponding dataset.

Cases and datasets

The 'Cases and Datasets' subdirectory should contain the following four data files:

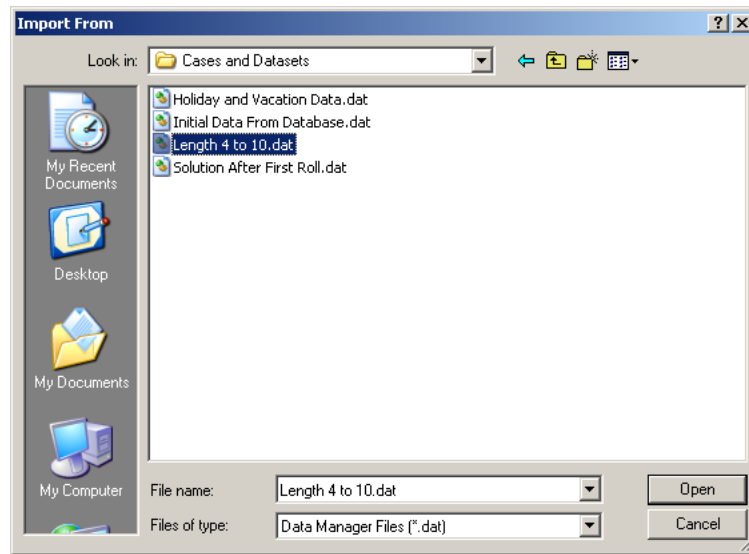
Cases and datasets directory

- 'Holiday and Vacation Data.dat'
- 'Initial Data From Database.dat'
- 'Length 4 to 10.dat'
- 'Solution After First Roll.dat'

In this section, the import of cases will be illustrated by importing all cases from the data file 'Length 4 to 10.dat'. This single data file contains the seven saved cases of the experiment that is described at the end of Chapter ???. To import the case you should perform the following steps:

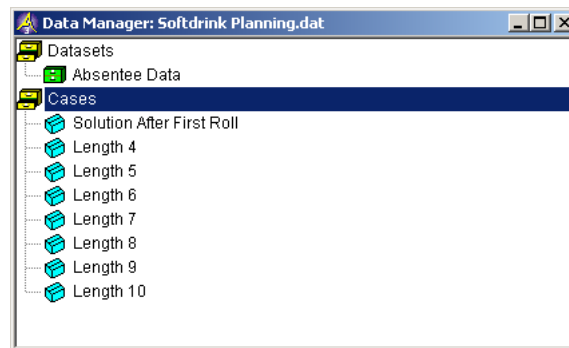
Illustrating the import process

- ▶ press the *F10* key to open the **Data Manager**,
- ▶ select the **Import** command from the **Edit** menu,
- ▶ select the file 'Cases and Datasets\Length 4 to 10.dat' from the **Import From** dialog box (see Figure 4.6), and
- ▶ press the **Open** button.

Figure 4.6: The **Import From** dialog box

Having pressed the **Open** button the cases Length 4 to Length 10 will automatically appear in the **Data Manager** as shown in Figure 4.7

*The resulting
Data Manager*

Figure 4.7: The **Data Manager** with the imported cases

4.6 Importing end-user menus

Besides model section, pages, cases and datasets, AIMMS also allows you to import and export the menu tree or portions thereof. In this tutorial, the Softdrink Planning Menubar that is developed in Chapter ?? has been exported to the 'Softdrink Planning Menubar.mnu', and is available for subsequent import.

End-user menus

The 'Menus' subdirectory should contain a single file:

Menus directory

- 'Softdrink Planning Menubar.mnu'

In this section, the import of a single menubar will be illustrated. To import the menubar, you should perform the following steps

Illustrating the import process

- ▶ press the *Ctrl-F9* key combination to open the **Menu Builder**,
- ▶ position the cursor at the User Menu Tree
- ▶ select the **Import** command from the **Edit** menu,
- ▶ select the file 'Menus\Softdrink Planning Menubar.mnu' from the **Select a File** dialog box, and
- ▶ press the **Open** button.

Depending on the current contents of the menu tree, you will be prompted whether to import the menubar as a new menubar in the menu tree, or whether to overwrite an already existing menubar. When your menu tree only contains the Default Page Menubar and the Default Page Toolbar, the **Import Menu** dialog box is identical to the one shown in Figure 4.8. After pressing the **Import** button, the new menubar will be correctly imported in your menu tree.

Import as new or overwrite

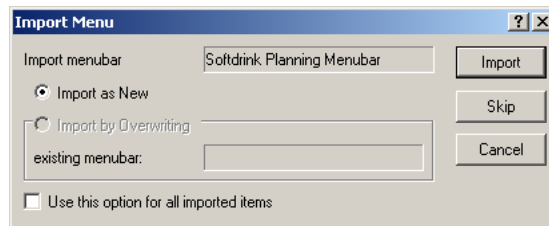


Figure 4.8: The **Import Menu** dialog box