

DSix Project Management

DSix Project Overview

Description

The project management section introduces the concept of DSix projects and their usage. We will cover the location of project files and will experiment with the loading, running and saving of DSix projects. The topic of project portability will also be discussed, including the porting of sounds, instruments, 3D graphics objects, and I/O mappings as well as system requirements and dependencies related to portability.

What you will learn

Upon completion of this section, you will be able to:

- Identify the type and location of files associated with DSix projects
- Load and save DSix projects
- Prepare DSix project files for porting to another machine
- Work around project portability issues related to the operating system

DSix Project Overview

- ✈ What is a DSix Project?
- ✈ Project File Structure
- ✈ Project Usage
- ✈ Project Portability

What is a DSix Project?

A DSix Project is a collection of code, data, resources, settings and libraries required to run a simulation.

A DSix project may consist of both development and runtime components, or be distributed as a runtime model only.

Projects that consist of both development and runtime features should treat these separate project components as co-dependent.

Project Directory Structure

Root Directory

Solution File *

Data Directory *

Simulink Directory *

FlightModel Directory *

 Dictionary Directory *

 Flight Model Resources *

Target (_TGT) Directory

 Backup

 Instruments

 Scripts

 ...

* Project Development Files/Directories

Project Development Files and Folders

- ✈ Project Solution File (<projectName>.sln)
The Visual Studio Solution definition
- ✈ Data Directory
DSix Data Table Storage
- ✈ Simulink Directory
Optional Simulink Model Storage
- ✈ FlightModel Directory *
Model Dependent Code, Dictionary Files
- ✈ FlightModel\Dictionary Directory *
Visual Studio Project that Manages the building of Dictionary Files

* Contains projects compiled in Visual Studio

The Project Runtime Directory

The project runtime, or 'Target' directory,
(`<ProjectName>_TGT`)

contains a portable runtime version of a DSix project. With a few exceptions, a project target folder may be moved to any location on any DSix machine, and used to run, configure and save a flight model project.

Project Target Files/Directories

<ModelName>_TGT

Project Definition File

<ModelName>.d6p

Project Status File

<ModelName>.d6s

Project Library

<ModelName>.dll

Table Look-ups

<ModelName>.dtf

Infofile Mapping

<ModelName>.infofile.d6s

Backup

Contains project backups (d6p, d6s, infofile)

Instruments

Project specific instrument resources

Scripts

Project specific script files

DSix Project Usage

- ✈ Loading a Project
- ✈ Running a Project
- ✈ Modifying Project Configuration with 'Simulation Parameters'
- ✈ Saving a Project

Loading a DSix Project

File..Open from DSix menu

File..Recent Projects from DSix Menu

Recent Project Links in Main Window

*.d6p double-click (new DSix instance)

Running a DSix Project

- ✈️ Toolbar “run” button
- ✈️ Simulation .. Run menu item
- ✈️ Selecting a Database (new vs. overwrite)
- ✈️ Troubleshooting Simple Run Issues

Troubleshooting Simulation Run Issues

Run Toolbar Item/Menu Item Disabled

Check "Safe Mode"

Already running

Run Toolbar Item/Menu Item Non-Responsive

Check modal prompt(s)

Model Immediately enters undefined state upon run

Check initial conditions

Modifying Project Configurations with Simulation Parameters

Simulation Parameters

Frame Rate

Mode (Real Time vs. Batch)

Duration

Save Interval

Continuous

Data Storage

Saving a Project

After making configuration changes, a project may be saved by selecting the standard “Save” or “Save As” options from the “File” menu. Saving a project will result in the updating of the project settings file, project status file, table look-up data, and project variables. (Developer’s NOTE! Changes to the project variable list should be followed by a project rebuild in Visual Studio.)

Additionally, several files will be generated that are required during project code compilation, should the project later be ported to a development environment.

DSix Project Portability

Save Project As...

- In the current project folder

- To another directory

Copying Project Files

- On the local machine

- To another machine

Save Project As... (current folder)

Saving a project to a different name in the current project root is an acceptable method of storing a similar project with slightly different configuration.

If a project's variable list, infofile, or data tables have changed, however, it may be better to save to a separate directory, or make a copy of the project directory.

This practice will help avoid possible mistakes involving look-up and variable files.

Save Project As (new directory)

A DSix project may be saved to a new directory, and doing so will create copies of all files required to run a simulation.

Caution should be used when saving to a new directory, however, as important, but non-critical supporting files (project scripts, for example) may be left behind. If these types of custom files are part of a project, it may be safer to simply copy the project directory.

Copying Project Files (on the local machine)

The simplest way to port a project is to copy the entire project to a new location, beginning at the lowest level project folder that you have. In the above example, you would move the entire “Project” folder, along with all of its subdirectories. If, on the other hand, your project consists of only the target directory, then move that folder, with all of its contents.

Note: Of course, it is important to be aware of any project files that may exist outside of the project directory.

Copying Project Files (porting to another machine)

- ✈ Debug Libraries
- ✈ I/O Mapping
- ✈ User Preferences

Porting Project Files (Debug Libraries)

Be aware of C Runtime Libraries on the target machine. If the host machine does not have Visual Studio installed, the CRT redistributable must be installed, and only release dll may be loaded.

Porting Project Files (User Preferences)

As you use DSix, you will invariably begin to create some preferences for your work environment. These preferences are not stored with the project, but are instead saved to a central location, available to all projects. If you would like to maintain the same preference settings across machines, you should plan to copy your preference file to the new machine as well. Preferences are stored on a per-user basis in the **BAR_COMMON** directory.



Flight Simulation Environment