SILENT

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DIgSILENT Interface Documentation

DGS Examples

DGS Examples

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1 Introduction

DGS is the standard interface of PowerFactory for data interchange.

This document describes the examples that are provided with the PowerFactory standard installation. For detailed information about the DGS format, please refer to the "DGS Documentation" document.
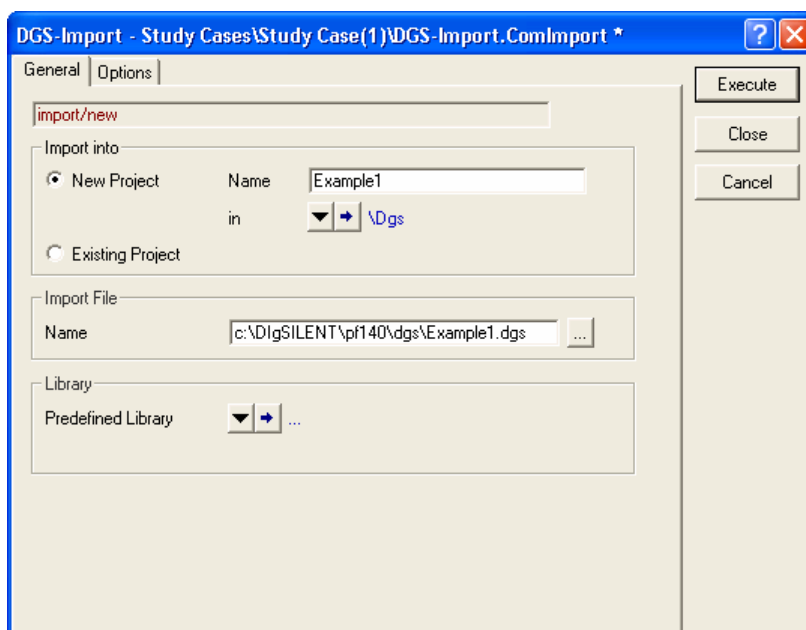
2 Example 1

This first example demonstrates an import of a complete network consisting of standard power system elements as terminals, lines, switches, transformers, loads and generators. Additionally, it contains a single line graphic holding a graphical representation of the network.

Steps to import the DGS file:

1. Select the DGS import command from file menu of PowerFactory: "File" → "Import…" → "DGS Format…"

   This will bring up the following dialog:

2. In this dialog:

   a. select option "Import into **New Project**"

   b. enter a name for the new project, e.g. "Example1"

c. select the DGS file "Example1.xls" located in the DGS sub-folder of the PowerFactory installation directory (alternatively, Example1.mdb or Example1.dgs could be used)

d. press "Execute".

The newly created project should look as depicted below:
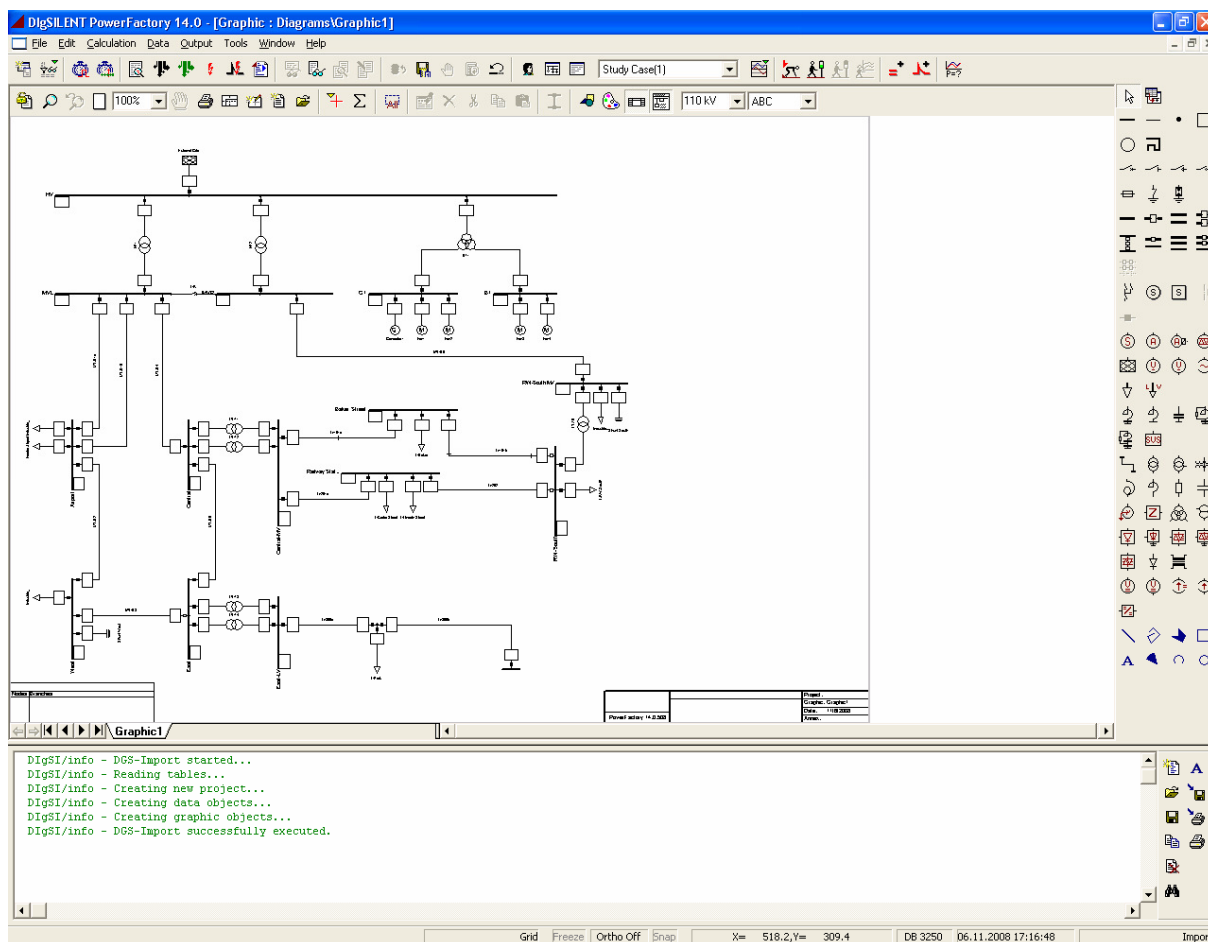
3 Example 2

This example demonstrates the import of DGS data using an existing type library. The example is based on the same network as example 1, but the DGS file does not contain any type elements. These element types do already exist in PowerFactory and are referenced in the DGS file. (These references are established by using the foreign-key mechanism. Therefore, all types have a foreign-key set in the existing master project.)

For this kind of import, we use a master project that holds all type elements. The DGS data is imported into this existing project.

Please follow these steps to execute the example:

1. Import the master project containing the type library:

   a. In menu "File" → "Import…" → "Data (*.dz…)", select the provided "Example2_Library.dz" project file.

   b. After executing this import, a new project "Example2" should exist, containing only a type library.

2. Now, import the DGS data into this project:

   a. From menu, select "File" → "Import…" → "DGS Format…". This will bring up the import command dialog:
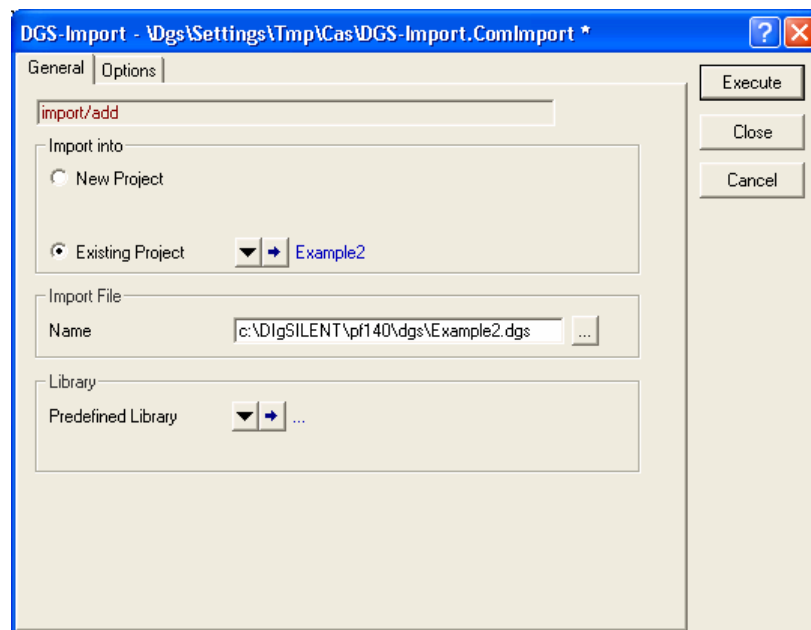
   b. Select "Import into **Existing Project**" and select the previously imported master project "Example2" as target.

   c. Select the DGS file named "Example2".

   d. Execute the import.

The import should run without any errors, producing the same network as depicted in example 1. To verify that all types have been set correctly, please run a load flow calculation or have a look at the edit dialogs of the elements, e.g. the lines.
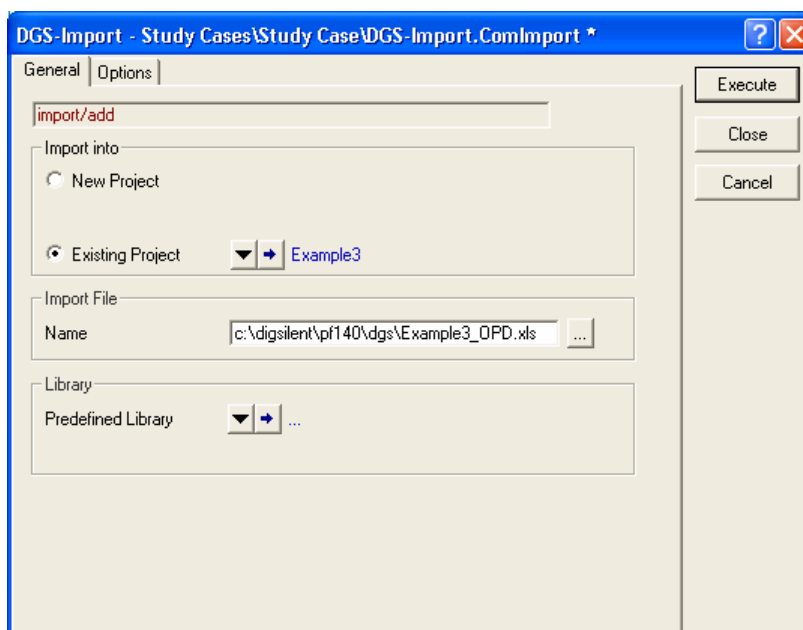
4 Example 3

This third example demonstrates the import of operational data (e.g. switch states) into an existing project. As there might be various operational data used for different applications, in this example, the operational data are not directly written to power system elements, but are stored in an operation scenario.

The referencing of existing power system elements is done via the foreign-key mechanism.

Please execute the following steps:

1. Import the provided project "Example3.dz" into PowerFactory (menu "File" → "Import…" → "Data (*.dz…)")

2. Now, activate the imported project (menu "File" → "Activate Project"…)

3. Create a new operation scenario. This can be done via menu "File" → "Save Operation Scenario as…" The newly created scenario will automatically be activated.

4. Now, import the DGS file "Example3_OPD.xls" containing the operational settings into the activated project. As there is an active scenario, all modifications of operational attributes will not change the base element but are recorded by the scenario.

5. As the scenario data is modified by the DGS import, it is required to save these changes afterwards. This can be done via menu "File" → "Save Operation Scenario".

5 Example 4

This last example demonstrates the import of a MV/LV network into PowerFactory. It contains diagrams showing a schematic and a geographic representation of the network. Furthermore, the substation is visualized in detailed (diagram "Substation"), simplified (diagram "MV schematic") and overview (diagram "MV geographic") representation. Additionally, some graphic objects as text and different shapes are created.

Please import the DGS file "Example4.xls" into a new project. (See example 1 for the steps to import a DGS file into a new project.)

The created project should look like this, containing 6 diagram tabs: