

Chapter 10: Automatically Importing Information Into SADA From Your Database Management System

Your institution may have a centralized or official database management infrastructure in place. From this system you query and export data sets so you can manipulate them in a manner that they can be imported into SADA. This chapter talks about different options for sending information to SADA behind the scenes in an automated way so that the transition from your database system to SADA can appear seamless. Similarly this automation can allow SADA to be called and controlled by any external modeling or management system so that it can be laid in-line with the institution's modeling toolbox. This chapter is really targeted at the IT folks in your institution more than the end SADA user. If you are not an IT person, then what is really important that you know this capability exists.

Writing Automation Script

The lion's share really is on your in-house programmers or information technology folks. What they will need to do is write a small script or code that exports the information out of the main system into a .csv file automatically. Typically this is not difficult to accomplish as the requirements bar for data format is fairly low (See previous chapters?). Upon successfully exporting the information to a .csv file, this same script or code will execute the SADA application using a "shell" type command or equivalently with a command line prompt. They will then need to provide some additional command line arguments that tell SADA exactly what file was just created and what to do with it. If you are not familiar with this type of language, its ok, your IT folks will likely be familiar with it. Sounds hard, but its really quite trivial.

Command Line Prompts

When SADA opens it looks for a command line prompt. If there is one, the first thing it does is look at the last 4 character of the prompt. These four characters tell it what to do next. They are

Command Line Argument	Meaning	Example
".sda"	Means open the SADA file I have sent you.	Sada5.exe MySADAFFile.sda
" efo"	Create an empty file with the name I've given you and then open SADA up showing this file.	SADA5.exe MyEmptyFile.sda efo
" efc"	Create an empty file with the name I've given you but	SADA5.exe MyEmptyFile.sda efc

	don't open SADA up (completely silent)	
" dfo"	Create a file with the data I'm sending you as define by the .sdx file. Then open it up in SADA.	SADA5.exe MyDataToImport.sdx dfo
" dfe"	Create a file with the data I'm sending you as define by the .sdx file. Then but don't open SADA (completely silent)	SADA5.exe MyDataToImport.sdx dfe

Now the sdx file has the following formats.

SDX File Format

Line: Parameter Description

- 1: The new sada file name with full path
- 2: The source data file (*.csv) with full path
- 3: Data Type (Elevation model = 11, Standard Model = 10, Sample values=6)
- 4: Data Subtype (Elevation model = 11, Standard Model = 10, Sample values=6)

If Data Type = 11 or 10 then

- 5: Name to give the model you are importing
- 6: Sampling Rate Power for reading in the model (for example $2^0 = 1$ = every value, $2^1 = 2$ = every other sample, $2^2 = 4$ every fourth sample and so on where N is the sampling rate power)

If Data type = 6 (sample values)

- 5: Sampling Rate Power for reading in the model (for example $2^0 = 1$ = every value, $2^1 = 2$ = every other sample, $2^2 = 4$ every fourth sample and so on where N is the sampling rate power)

Beginning with line 6 and 7 you must enter the name of the primary field SADA is looking for then a comma, then the column number where it is located in your data set. The field numbers are 1 based. That is the first column is column = 1 , the second column is column = 2 and so forth. The recognized field names are

Easting, Northing, Depth, CAS, Name, Value, Detect, Media, Date

Your fields can be named anything you like, these are just string based identifiers to tell SADA where the needed information is. For example, Easting = 1 means that the easting coordinates are in the first column

Automation Examples

Here is an example of a SDX file for directly importing the threedimensional.csv file packed with SADA. You can use this file to create the file MyThreeDimensional.sda automatically. Note your directory structure may vary. In this example every required or field of interest that SADA might use is included and is coincidentally in order.

```
C:\Program Files\SADA 5.0\MyThreeDimensional.sda
```

```
C:\Program Files\SADA 5.0\ThreeDimensional.csv
```

```
0
```

```
6
```

```
0
```

```
Easting, 1
```

```
Northing, 2
```

```
Depth, 3
```

```
CAS, 4
```

```
Name, 5
```

```
Value, 6
```

```
Detect, 7
```

```
Media, 8
```

```
Date, 9
```

Here is an example of an SDX file where only a few of the base required columns are present.

```
C:\Program Files\SADA 5.0\MyTwoDimensional.sda
```

```
C:\Program Files\SADA 5.0\TwoDimensional.csv
```

```
0
```

```
6
```

```
0
```

```
Easting, 1
```

```
Northing, 2
```

```
Name, 5
```

```
Value, 6
```

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This example will automatically import the elevation model "knob_creek.dem" packed with SADA it will sample every 16thth (2^4) value (it's a huge file).

```
C:\Program Files\SADA 5.0\TwoDimensionalElevation.sda
```

```
C:\Program Files\SADA 5.0\knob_creek.dem
```

```
1
```

```
11
```

```
MyElevation
```

```
4
```

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