

CHAPTER

8

SAS/ACCESS Procedures

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Version 8 Compatibility for Version 6 Procedures

Under Version 7 and later of SAS/ACCESS software, the ACCESS and DBLOAD procedures continue to be supported for the DBMSs and operating environments on which they were supported in Version 6. You can still create SAS/ACCESS descriptor files to access or load DBMS data. There are some changes and enhancements to the ways in which these features work:

- The SAS Explorer window replaces the ACCESS window and its functionality.
- The ACCESS procedure has been enhanced by the UPDATE statement, which enables you to edit and update access descriptors and view descriptors in SAS code.
- The DBLOAD procedure has been enhanced by the APPEND statement, which enables you to append data to an existing DBMS table.
- Access descriptor, view descriptor, and SAS variable names, when used in the ACCESS and DBLOAD procedures, are still limited to 8 characters.
- The interactive windowing interface for the ACCESS procedure is not supported; you can no longer create and edit access descriptors and view descriptors by using the Access Descriptor and View Descriptor definition windows. The interactive windowing interface for the DBLOAD procedure is also no longer supported.

Note: It is recommended that you use the new SAS/ACCESS LIBNAME statement or the SQL Procedure Pass-Through Facility to access your DBMS data more directly and to take full advantage of Version 7 and later enhancements. See “SAS/ACCESS LIBNAME Statement” on page 27 for more information about the new LIBNAME statement. △

Overview of SAS/ACCESS Procedures

Version 6 of SAS/ACCESS software provided an interface between SAS software and database management systems (DBMSs) that is still available and supported in Version 7. Each interface has one or more of the following features, which perform these tasks:

- ACCESS procedure

- creates and updates SAS/ACCESS descriptor files that describe data in a DBMS table to SAS software
 - creates a SAS data file from DBMS data.
- DBLOAD procedure
 - creates a new DBMS table and loads it with SAS data or data that is accessed by a view descriptor, PROC SQL view, or DATA step view
 - updates an existing DBMS table with SAS data or data that is accessed by a view descriptor, PROC SQL view, or DATA step view
 - submits non-query SQL statements to the DBMS.
- interface view engine
 - enables you to use descriptor files to read DBMS data directly into SAS programs
 - enables you to specify descriptor files in SAS programs to update, insert, or delete DBMS data

Note: See your DBMS chapter to determine which features are supported for your DBMS. Δ

ACCESS Procedure: Creating and Using Descriptor Files

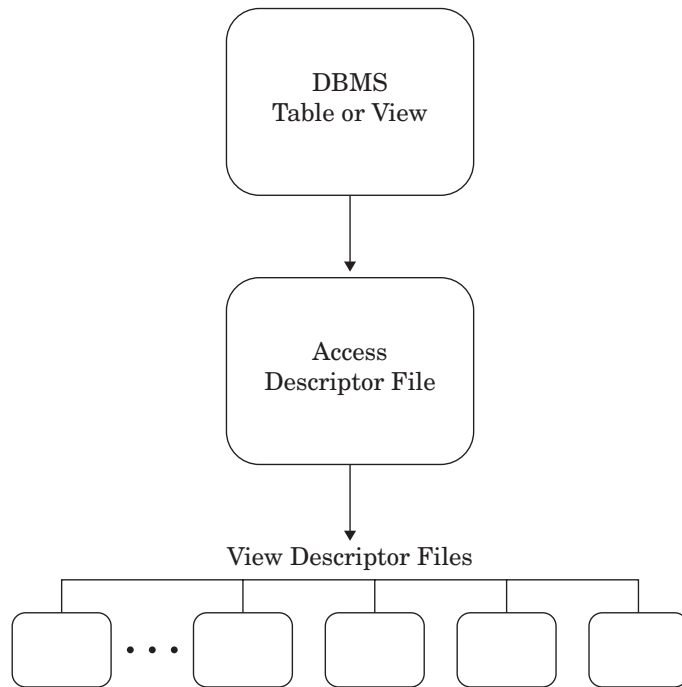
SAS/ACCESS descriptor files are one way that SAS software uses to define data that is stored physically in a DBMS table or accessed through a DBMS view. To create descriptor files, you use the ACCESS procedure. There are two kinds of descriptor files: access descriptors and view descriptors.

Access Descriptors

An *access descriptor* holds essential information about the structure and attributes of the DBMS table or view you want to access, such as DBMS connection information, the name of the database, the table name and column names, and data types. It can also contain the corresponding SAS software information such as the SAS variable names and formats. Typically, you have only one access descriptor for each table.

An access descriptor only describes a DBMS table's format and contents to SAS software; that is, it is a master file of the table's information for SAS software. You cannot use an access descriptor in a SAS program; rather, you use an access descriptor to create other SAS files, called view descriptors, that you use in SAS programs.

Figure 8.1 on page 101 illustrates the access descriptor creation process. Note that an access descriptor, which contains the metadata of the DBMS table, must be created before view descriptors can be created.

Figure 8.1 Creating an Access Descriptor and View Descriptors for a DBMS Table

View Descriptors

A *view descriptor* defines some or all of the data that is described by one access descriptor. In other words, it defines all or part of one DBMS table or view. For example, you might want to use only three of nine possible columns and only some of the rows in a DBMS table. The view descriptor enables you to do this by selecting the columns that you want to use and by specifying criteria for retrieving, grouping, or ordering only the rows that you want. Typically, you create several view descriptors based on one access descriptor; each view descriptor selects a different subset of the DBMS data.

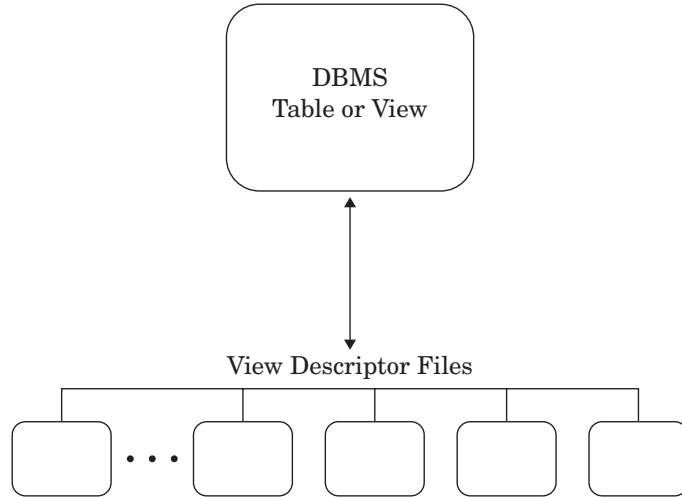
A view descriptor is a SAS data set or, more specifically, a SAS data view. You use a view descriptor in a SAS program much as you would any SAS data set. For example, you can specify a view descriptor in the DATA= statement of a SAS procedure or in the SET statement of a DATA step.

A view descriptor can also be used to update data in a DBMS table directly, if you have been granted the authority to do so. For example, you can specify a view descriptor to add or delete rows in a DBMS table or to change the values in a field by using the SQL procedure or the View Table option in the SAS Explorer window. See Chapter 13, “Using DBMS Data with the SQL Pass-Through Facility,” on page 179 for examples of updating DBMS data.

In some cases, you might also want to create a SAS data file from DBMS data. When you use a view descriptor to copy DBMS data into a SAS data file, it is called *extracting* the data. You can extract DBMS data in a number of ways. For example, you can extract the data by using various methods within the ACCESS procedure, a DATA step, or the OUT= option in a SAS procedure. (See “ACCESS Procedure Syntax” on page 104 for more information.) When you need to use DBMS data in a number of procedures or DATA steps, extracting the data into a SAS data file may use fewer resources than repeatedly accessing the data directly.

Figure 8.1 on page 101 illustrates the relationships among a DBMS table, an access descriptor, and one or more view descriptors. Figure 8.2 on page 102 illustrates the relationship between view descriptors, which store a query, and a DBMS tables or view.

Figure 8.2 Using a View Descriptor to Access a DBMS Table



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