

APPENDIX

3

Batch Processing with the Result Manager (OS/390 Only)

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Introduction

This appendix provides information about submitting batch jobs from SAS/ASSIST software. When you invoke SAS/ASSIST software under OS/390, you can use the Result Manager to execute saved queries, reports, and so on, in batch. To execute an entry in batch mode, you need a site-dependent Job Control Language (JCL) program. The JCL program can reside as a sequential file, a Partitioned Data Set (PDS) member, or as a source entry in a SAS catalog.

Note: This section describes basic information for batch processing using the Result Manger under the OS/390 operating environment. Batch processing and JCL are specific for each site. Check with your OS/390 system administrator for additional information. △

Additional Information

For additional information on submitting batch jobs under OS/390, see the *SAS Companion for the OS/390 Environment*.

General Batch Processing Information Under OS/390

When you use the **L** command in the Result Manager window to batch submit an entry, the default JCL program in SASHELP.QASSIST.BATCHJOB.SOURCE is used for the batch submission. This program uses the prompt feature. That is, the user is asked to type the userid for batch processing. You can change this behavior to prompt the user for other JCL parameters (such as job class, time, and so on). See the next section for more information.

The site-dependent command for executing a batch job is specified in the User, Group, or Master profile's **Batch** command field. The default value is SUBMIT. If the profile's **Generate libnames** field is set to **Yes**, the user's SAS session is examined for

allocated SAS libraries (librefs), and LIBNAME statements are inserted into the batch job. This may be useful if the JCL does not allocate all of the SAS data libraries that are necessary to execute the programs. To view or change these profile options, open the User Profile window or the Master/Group Profile window and set the **Type** to **Batch**. See Appendix 2, “Customizing SAS/ASSIST Software,” on page 241 for details.

Note: If the batch job starts executing while the SAS data libraries are still allocated to your session or to another user’s session in update mode, the batch job ends abnormally (abend) if the LIBNAME statements fail. To avoid this, you can delay the start of the batch job’s execution until the other users have finished using the necessary SAS libraries. Or, make sure you de-allocate the libraries from interactive sessions. \triangle

Submitting Batch Jobs

Follow these instructions to submit a SAS/ASSIST task as a batch job.

- 1 Open the desired task window and make the desired task window selections.
- 2 Save the task by selecting **Save** from the **File** menu. Enter a name and description and select **OK** in the Save window.
- 3 Open the Result Manager window by following this selection path:

Tasks

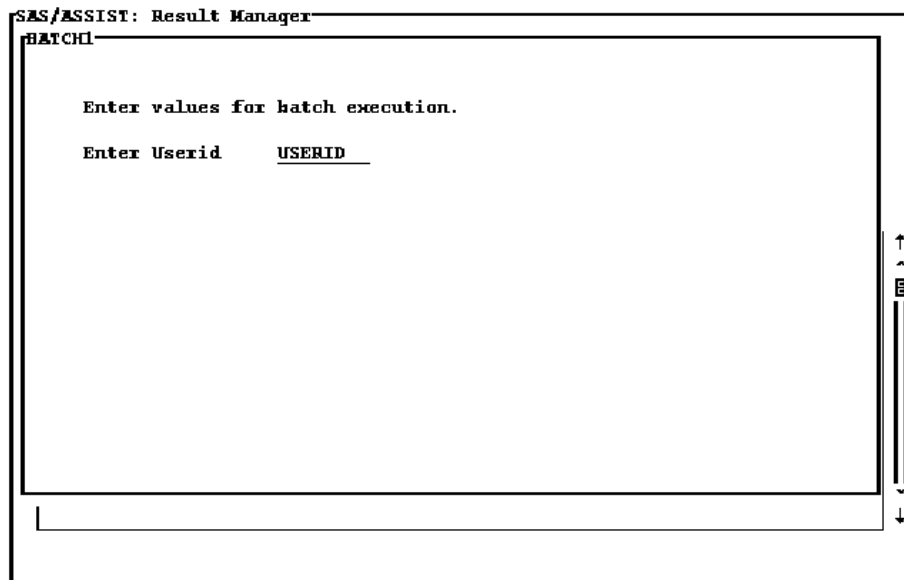
 \blacktriangleright

Results

 \blacktriangleright

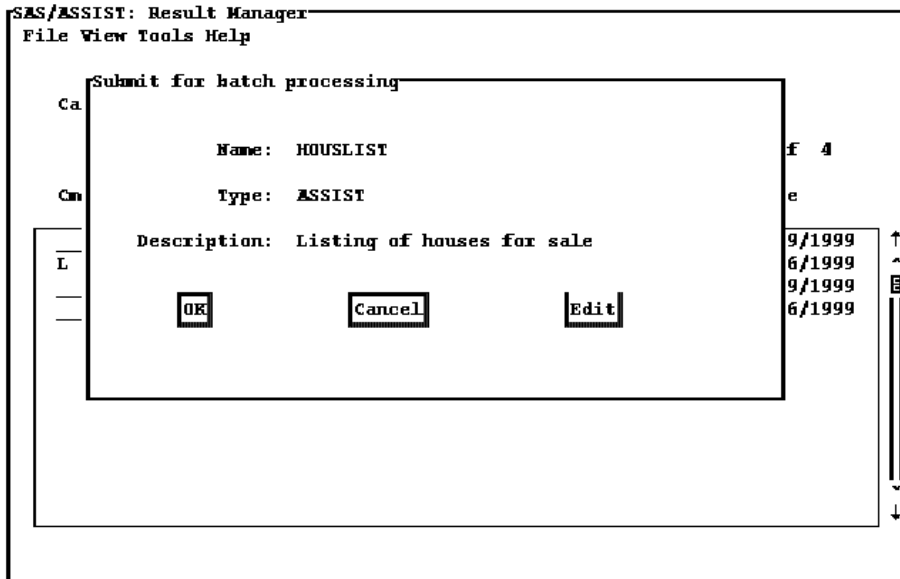
Result Manager
- 4 Type an **L** in the **Cmd** field for the saved task and press ENTER. The BATCH1 window appears.

Display A3.1 BATCH1 Window



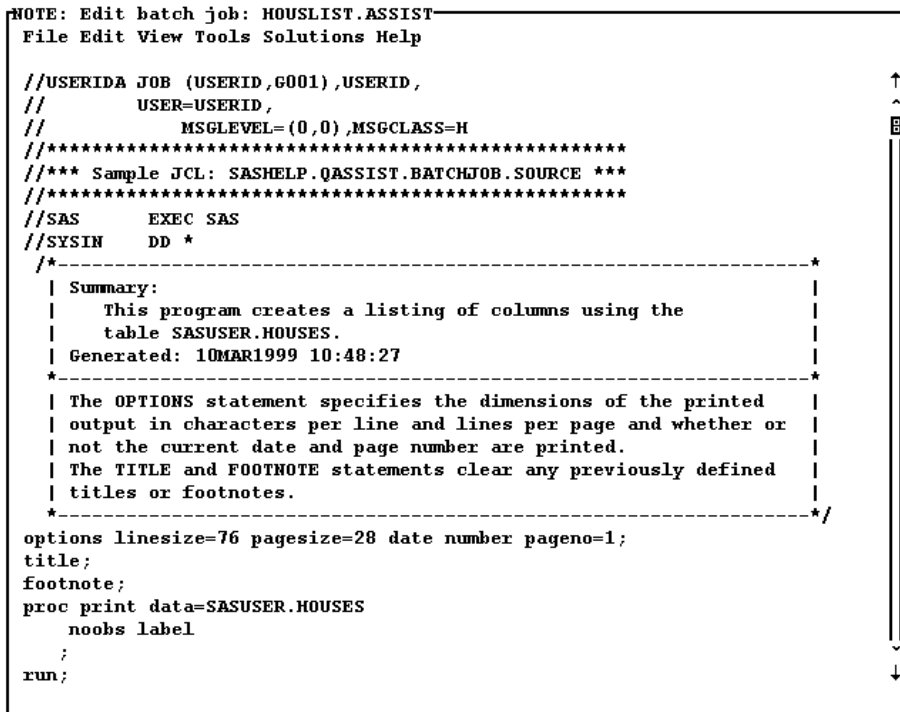
- 5 After you verify or change the values in the BATCH1 window, press ENTER. The Submit for Batch Processing window appears.

Display A3.2 Submit for Batch Processing Window



- 6 If desired, select **Edit** to edit the JCL generated after the symbolic parameters have been resolved, as shown in the following display.

Display A3.3 Edit Batch Job Window



After making your changes, select **Close** from the **File** menu. When prompted, select **Yes** to save the changes and return to the Submit for Batch Processing window.

- 7 Select **OK** to submit the job for batch processing.

Customizing the JCL Program

The following sample JCL is found in SASHELP.QASSIST.BATCHJOB.SOURCE.

```
//&userid("Enter Userid",&sysjobid,"8")A JOB (&userid,G001),
//      &userid, USER=&userid,
//      MSGLEVEL=(0,0),MSGCLASS=H
//*****
//*** Sample JCL: SASHELP.QASSIST.BATCHJOB.SOURCE ***
//*****
//SAS      EXEC SAS
//SYSIN    DD *
```

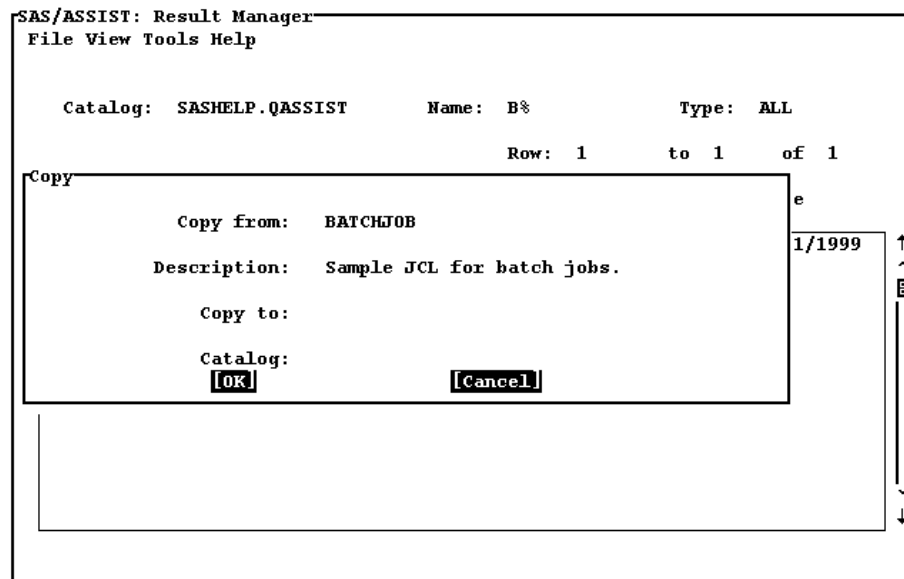
This JCL executes when you submit a batch job by typing **L** in the **Cmd** field next to an entry in the Result Manager window. The JCL opens the BATCH1 window, enabling the user to enter information as prompted. You can customize the prompts in the BATCH1 window by customizing a copy of the JCL program as follows:

- 1 If it is not already open, open the Result Manager window by following this selection path:



- 2 Type **SASHELP.QASSIST** in the **Catalog** field and press ENTER. A list of entries in the SASHELP.QASSIST catalog appears.
- 3 Type **B%** in the **Name** field and press ENTER to display only those entries that start with the letter B.
- 4 Type a **C** next to **BATCHJOB SOURCE** entry and press ENTER. The Copy window appears.

Display A3.4 Copy Window



Because you cannot edit entries in the SASHELP.QASSIST catalog, you must copy this entry to a location in which you have WRITE access. Later, you will change the **Batch file** User or Master/Group Profile option to point to the copy of the JCL program.

- 5 In the **Copy to** field, type the name you want to assign to the copy and press TAB.
- 6 In the **catalog** field, type the name of the desired catalog (in which you have WRITE access) over the existing value.
- 7 Select **OK**. The program is copied to the new location.
- 8 In the **catalog** field of the Result Manager window, type the name of the catalog in which the copy was placed and press ENTER.
- 9 In the **Cmd** field for the copy of the program, type an **E** and press ENTER. The program appears in the Edit window.

You can use the prompt feature in your JCL in the same way as you would use the prompt feature in a query (see "Using the Prompt Facility" on page 177 for more information). For example, if you want to prompt the user to change the TIME for the batch job, you would put in a prompt for the TIME in the JCL. In the following JCL, the third line creates an "Enter Time" prompt with an eight-character field that contains the default time of (,5).

```
//&userid("Enter Userid",&sysjobid,"8")A JOB (&userid,G001),
//      &userid, USER=&userid,
//      TIME=&time("Enter Time",",5)","8"),
//      MSGLEVEL=(0,0),MSGCLASS=H
//*****
//*** Sample JCL: SASHELP.QASSIST.BATCHJOB.SOURCE ***
//*****
//SAS      EXEC SAS
//SYSIN    DD *
```

In the edited code,

USER=

is the JCL parameter that is added to your JCL source code.

&userid

is the macro variable that contains the USER parameter value.

"Enter Userid",&sysjobid,"8"

are the parameters that are used to build the statement displayed in the BATCH window.

"Enter Userid"

is the descriptive text displayed in the window.

&sysjobid

is the macro variable for system job ID. It provides the default value for the macro variable (&userid).

"8"

is the length, in bytes, of the userid macro variable field.

TIME=

is the JCL parameter that you want added to your JCL source code.

&time

is the macro variable that contains the TIME parameter value.

"Enter Time", "(,5)", "8")

is the parameter that contains the components that are used to build the statement displayed in the BATCH window.

"Enter Time"

is the descriptive text displayed in the window.

(,5)

is the default value for the macro variable **&time**.

"8"

is the length, in bytes, of the time macro variable field.

When you are done editing the JCL, select **Close** from the **File** menu. When prompted, select **Yes** to save the changes. Select **Close** from the **File** menu to exit the Result Manager.

To use the new JCL program, you must change the **Batch file** User Profile option as follows:

- 1 Follow this selection path to open the User Profile window:



If you are an administrator and you want to set up this option for a group or for all users at a site, open the Master/Group Profile window instead of the User Profile window.

- 2 In the **Type** field, type **BATCH** and press ENTER.
- 3 For the **Batch file** option, change the value to the location of the new JCL program. Use a four-level name in the form *libname.catalog.filename.type*.
- 4 If you have included prompts in the JCL, ensure that the **Batch prompt** option is set to **YES**. When the **Batch prompt** option is **Yes**, the batch file is scanned for prompts which start with ampersands (&). If the **Batch prompt** option is **No**, the batch file is submitted without being scanned for prompts. However, if you use ampersands in your JCL that are not intended to be prompts, make sure that the **Batch prompt** option is **No**. Otherwise, the ampersands are interpreted as prompts.
- 5 Save your changes by selecting **Close** from the **File** menu.

The next time you submit a saved task for batch processing, the BATCH1 window appears with your changes.

Customizing the Batch Program Window

After you verify the values in the BATCH1 window and press ENTER, the Submit for batch processing window appears. You can customize this window by editing a copy of the SASHELP.QASSIST.SAMPBATC.PROGRAM. Customizing the Batch Program window involves SAS Component Language (SCL) programming. You should not customize the Batch Program window unless you are a SAS administrator. To edit the batch program, you must have SAS/AF software licensed at your site.

- 1 The sample SCL program for customizing the Batch window is stored in SASHELP.QASSIST.SAMP_SCL.SOURCE. The only portion of the code in this entry that applies to this customization is the section labeled SASHELP.QASSIST.SAMPBATC.PROGRAM. Since you cannot directly copy the SOURCE entry into the SOURCE window of the PROGRAM entry, view the SOURCE entry, and use the FILE command to write the SOURCE entry to an external file.

- 2 Create a PROGRAM entry in a location where you have WRITE access. Use the INCLUDE command to include the SCL code into the SOURCE window of the PROGRAM entry. Delete the irrelevant portions of the SCL code. Design the display of the PROGRAM entry to your specifications.
- 3 Edit, compile, and save the associated SCL program.

See *SAS Component Language: Reference* for more information on customizing PROGRAM entries and SCL code.

In order to have SAS/ASSIST software use your customized window, change the value of the **Batch window** option in the User, Group, or Master profile to point to the new program for the Submit for batch processing window.

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