ibi™ FOCUS®

Adapter for Db2 Installation

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Contents

Before You Begin

Before you begin to install the Adapter for Db2, you should be aware of installation prerequisites and consider maintenance procedures that may affect the installation process. This chapter describes these pre-installation requirements.

This guide assumes that the person performing the installation and maintenance procedures has a working knowledge of z/OS. Knowledge of ibi™ FOCUS® and the Structured Query Language (SQL), with the exception of the SQL GRANT command, is not required.

The Db2 database administrator (DBA) will need to provide site-specific information, such as storage and table or view names required for the SQL GRANT command.

Read this guide thoroughly before installing the adapter to ensure correct installation.

Pre-Installation Requirements

You need to have the correct software installed and know how to issue the SQL GRANT command in order to install the adapter. In addition, on z/OS you need to decide between the Call Level Interface (CLI) or the Call Attachment Facility (CAF).

Software Requirements

Before you install the adapter, please review the following list of software requirements:

- Db2 must be installed and working. If it is not, contact your Db2 database administrator. The adapter may be used with any version of Db2 supported by IBM.
- FOCUS® must be installed on your system. If it is not, contact your FOCUS database administrator or consult your FOCUS installation guide for instructions on installing FOCUS.

  You also need to know your FOCUS release and Service Pack level. Every time you invoke FOCUS, the banner displays the release.

- Your FOCUS and Db2 maintenance must be up to date.

Adapter Requirements

z/OS Requirements

You need to know how to allocate your adapter libraries on z/OS. You may need to acquire additional space to accommodate the adapter.

In addition, you need to know the data set in which the Db2 software resides. This data set is usually qualified, with names of the form:

```
DSNv10.SDSNnnnn
```

where:

v

Is the Db2 release.

nnnn

Is a name indicating the contents of the library.

For example, DSNB10.SDSNLOAD is the data set containing Db2 Version 11 Release 1 run-time software.

UNIX Requirements

For FOCUS for Distributed Systems, your PATH must include the directories that are needed to access your Db2 client libraries.

Native SQL Requirement

GRANT is a native SQL command that authorizes users to access Db2 objects such as tables and Db2 application plans. As a run-time requirement, this command must be issued after the adapter is installed. It is also required for the AUTODB2 facility in order to allow access to the Db2 catalog tables.

You need to know the command syntax and have authorization for the tables or views and plans or modules in question. If you are unfamiliar with the GRANT command, contact your Db2 database administrator for assistance.

Methods for Calling Db2

On FOCUS for Distributed Systems, you install the adapter to use the Call Level Interface (CLI).

On z/OS FOCUS, you can install the adapter to call Db2 using one of two methods:

- **Call Level Interface (CLI).**

  If you install the adapter to use CLI, FOCUS will connect to a Db2 client, and that client will communicate with Db2. The client will also set up the environment, so that you do not have to select a PLAN in your FOCUS session or batch job. In this environment, you can also call Db2 stored procedures. However, this environment does require an extra communications layer.

- **Call Attachment Facility (CAF).**

  If you install the adapter to use CAF, FOCUS will connect directly to Db2. The following adapter features require CAF:

  - Static SQL for MODIFY.
  - Enhanced COMMIT, connection, and thread control. The AUTOCLOSE and AUTODISCONNECT features require CAF.
  - CALLDB2 for invoking subroutines with embedded SQL.

  Using CAF offers other advantages:

  - The ability to change plans (ENGINE DB2 SET PLAN) or Db2 subsystems (ENGINE DB2 SET SSID) within the FOCUS session. Users may wish to switch to a plan with a different isolation level, or from a test to a production Db2 subsystem, without exiting FOCUS. The ability to switch plans is critical to the CAF-specific features.
  - Users can disconnect from Db2 while in a FOCUS session. They may also use FOCUS when Db2 is not available.

Maintenance

There are no maintenance procedures that must be performed regularly to ensure the proper functioning of the adapter. However, three situations that require adapter maintenance may occur:

- If you install a new release of FOCUS (including maintenance releases), you must also reinstall the adapter.
- If you receive a Hotfix or Service Pack that affects the adapter, it will be accompanied by a cover letter containing installation instructions. If you still have installation questions after reading the cover letter, contact Information Builders Customer Support Services or check InfoResponse Online. For instructions, see Preface.
- If you install a new version of Db2, you must reinstall the adapter.

Restricting the Use of Direct SQL Passthru Commands

By default, users can issue SQL commands directly to Db2.

Use of Direct SQL Passthru enables users to directly report from or modify tables in the RDBMS, without the need for FOCUS Master and Access Files. You may want to restrict the use of Direct SQL Passthru if your Master Files have FOCUS DBA security restrictions that limit user access to tables and views.

To disable Direct SQL Passthru, issue the following command in any supported profile, at the command line, or in a procedure.

```
SET DPT = OFF
```

Note: When Direct SQL Passthru is disabled:

- It cannot be enabled in the same FOCUS session.
- The AUTODB2 tool will not work.

For complete information about Direct SQL Passthru, see the *Relational Data Adapter User's Manual*.

Installing the Adapter for Db2 to Use CLI on z/OS

If your site will connect to Db2 using the Call Level Interface (CLI), you can use the CLI facility to call Db2 from FOCUS.

Create Configuration Files for Access to Db2 Using CLI

Accessing Db2 using CLI requires two configuration files you must place in the concatenation of data sets allocated to DDNAME ERRORS. You can place these members directly in the **hlq**.CONF.CFG data set or in another data set that you concatenate in front of **hlq**.CONF.CFG in the allocation for DDNAME ERRORS. These two members are named EDASERVE and FOCPROF.

Configure the EDASERVE Member for Access to Db2 Using CLI

The EDASERVE member must contain the following attributes:

```
db2_cli = y
db2_rel = v
db2_access = y
```

where:

v

Is your release of Db2.

Configure the FOCPROF Member for Access to Db2 Using CLI

In order to access Db2 from FOCUS, you must issue the SET CONNECTION_ATTRIBUTES command. If you place this command in FOCPROF, it will be issued automatically when FOCUS is invoked. Alternatively, you can issue the SET CONNECTION_ATTRIBUTES command after invoking FOCUS. You must get the appropriate LOCATION, USERNAME, and PASSWORD from your database administrator.

To issue the SET CONNECTION_ATTRIBUTES command automatically when FOCUS is invoked, add the following to the FOCPROF member:

```
-SET &CONSTR='location/username,password';
ENGINE DB2 SET CONNECTION_ATTRIBUTES CON1 &CONSTR
END
```

where:

location

Is the Db2 data source location (DSN name).

username

Is the user ID connecting to Db2.

password

Is the password for the user ID connecting to Db2.

Create a Procedure to Access FOCUS and Verify Adapter Installation

In order to access Db2 from FOCUS using CLI, you must create a CLIST or job that allocates all of the required FOCUS and Db2 data sets and has access to the configuration files.

The EDASERVE and FOCPROF members can either be placed directly in the **user**.CONF.CFG data set or they can be placed in a separate Partitioned DataSet (PDS) which you must concatenate to the **hlq**.ERRORS.DATA data set in the allocation for DDNAME ERRORS in your CLIST or JCL.

Sample CLIST to Access Db2 From FOCUS Using CLI

You can use the following CLIST as a sample after editing it to meet the standards at your site. In this example, **user**.DB2CLI.CFG in the allocation for DDNAME ERRORS contains the members EDASERVE and FOCPROF:

```
ALLOC F(FOCLIB)  DA('hlq.FOCLIB.LOAD') SHR REUSE
ALLOC F(ERRORS)  DA('user.DB2CLI.CFG' -
                    'hlq.ERRORS.DATA') SHR REUSE
ALLOC F(MASTER)  DA('user.MASTER.DATA' -
                    'hlq.MASTER.DATA') SHR REUSE
ALLOC F(FOCSQL)  DA('user.FOCSQL.DATA' -
                    'hlq.FOCSQL.DATA') SHR REUSE
ALLOC F(FOCEXEC) DA('user.FOCEXEC.DATA' -
                    'hlq.FOCEXEC.DATA') SHR REUSE
CALL 'hlq.FOCLIB.LOAD(FOCUS)'
```

where:

hlq

Is the high-level qualifier for your FOCUS production data sets.

user

Is the high-level qualifier for the private version of a data set.

Note: Before executing your CLIST, you must be sure that your Db2 load libraries are available either by allocating them to DDNAME STEPLIB or by having them in the LINKLIST.

Execute the CLIST to invoke FOCUS and issue the following commands at the FOCUS prompt, pressing Enter after each line.

```
SQL DB2 ?
SQL DB2
SELECT * FROM SYSIBM.SYSDUMMY1;
END
```

If the adapter settings and the request output displayed, the installation and connection were successful. Issue the following command to exit FOCUS.

```
FIN
```

If you disabled Direct SQL Passthru, instead of getting the report output, you will get the following message.

```
(FOC1570) DIRECT PASSTHRU DISABLED ON THIS SERVER.
```

You should then run the following version of the request that does not use Direct SQL Passthru.

```
CREATE SYNONYM _edatemp/SYSDUM1 DROP
   FOR SYSIBM.SYSDUMMY1
   DBMS DB2
END
TABLE FILE _edatemp/SYSDUM1
PRINT *
END
```

If the request output displayed, the installation and connection were successful. Issue the following command to exit FOCUS.

```
FIN
```

Sample JCL for Accessing Db2 From FOCUS Using CLI

You can use the following JCL as a sample for creating a job that meets the standards at your site. In this example, **user**.DB2CLI.CFG in the allocation for DDNAME ERRORS contains the members EDASERVE and FOCPROF:

```
//FOCUSDB2  EXEC PGM=FOCUS,REGION=64M
//STEPLIB  DD DSN=DSNv10.SDSNEXIT,DISP=SHR
//         DD DSN=DSNv10.SDSNLOAD,DISP=SHR
//         DD DSN=hlq.FOCLIB.LOAD,DISP=SHR
//         DD DSN=hlq.FUSELIB.LOAD,DISP=SHR
//ERRORS   DD DSN=user.DB2CLI.CFG,DISP=SHR
//         DD DSN=hlq.ERRORS.DATA,DISP=SHR
```

```
//FOCLIB   DD DSN=hlq.FOCLIB.LOAD,DISP=SHR
//SYSPRINT DD SYSOUT=*
//SYSTSPRT DD SYSOUT=*
//FOCEXEC  DD DSN=hlq.FOCEXEC.DATA,DISP=SHR
//MASTER   DD DSN=hlq.MASTER.DATA,DISP=SHR
//FOCSQL   DD DSN=user.FOCSQL.DATA,DISP=SHR
//SYSIN DD *
  SQL DB2 ?
  SQL DB2
  SELECT * FROM SYSIBM.SYSDUMMY1;
  END
  FIN
/*
```

where:

v

Is your version of Db2, for example, B for version 11.

hlq

Is the high-level qualifier under which you installed FOCUS. In this example, **hlq**.FOCUS.DB2CLI.CFG contain the members EDASERVE and FOCPROF.

user

Is the high-level qualifier for a library allocated under the user ID of a specific user.

If the adapter settings and the request output displayed, the installation and connection were successful.

If you disabled Direct SQL Passthru, instead of getting the report output, you will get the following message.

```
(FOC1570) DIRECT PASSTHRU DISABLED ON THIS SERVER.
```

You should then run the following version of the request that does not use Direct SQL Passthru.

```
CREATE SYNONYM _edatemp/SYSDUM1 DROP
   FOR SYSIBM.SYSDUMMY1
   DBMS DB2
END
TABLE FILE _edatemp/SYSDUM1
```

```
PRINT *
END
```

If the request output displayed, the installation and connection were successful.

Installing the Adapter for Db2 to Use CAF on z/OS

This chapter describes how to install the Adapter for Db2 with the Call Attachment Facility (CAF).

Before installing the adapter, FOCUS must be installed and operational. All files required by the adapter installation become available once you install FOCUS using the ISETUP procedure.

Choose an Installation Option

There are two options for the first step in installing the adapter. The preferred method uses an EDASERVE configuration file. The alternative method requires you to create an RRSET member. Both methods then require you to do a bind, as described in Create the BIND Member and Submit the BIND Job.

Create the EDASERVE Configuration File for Access to Db2 Using CAF

You can access Db2 using CAF by creating an EDASERVE configuration file that you must place in the concatenation of data sets allocated to DDNAME ERRORS. You can place this member directly in the **hlq**.CONF.CFG data set or in another data set that you concatenate in front of **hlq**.CONF.CFG in the allocation for DDNAME ERRORS.

Configure the EDASERVE Member for Access to Db2 Using CAF

If you are using the RRSET module, omit this step.

The EDASERVE member must contain the following attributes:

```
db2_caf = y
db2_rel = v
db2_access = y
```

where:

v

Is your release of Db2.

Create the RRSET Member (Alternative Method)

If you are using the EDASERVE configuration file, omit this step.

Create a new load library called **hlq**.USE.FOCSQL.LOAD, where **hlq** is the high-level qualifier for your installed version of FOCUS. This library should have the same DCB attributes as **hlq**.FOCSQL.LOAD:

```
Organization  . . . : PO
Record format . . . : U
Record length . . . : 0
Block size  . . . . : 27998
```

Copy **hlq**.FOCSQL.LOAD(RRSET**v**) to **hlq**.USE.FOCSQL.LOAD(RRSET).

where:

v

Is your version of Db2, for example, 11 or 12.

Create the BIND Member and Submit the BIND Job

Copy **hlq**.CONF.DATA(IDB2BIND) to a data set that you can edit.

Note: GENFDB2 is no longer used.

Make the following edits to the IDB2BIND member of the data set you can edit.

1. On line 16, supply the name of your Db2 load library (usually DSN**v**10.SDSNLOAD).

   For example, change the following line

   ```
   000016 //  DSN=<db2 load library>
   ```

   to the following if you are using Db2 version 11

   ```
   000016 //  DSN=DSNB10.SDSNLOAD
   ```

2. On line 18, supply the name of your Db2 CLIST library (usually DSN**v**10.SDSNCLST).

   For example, change the following line

   ```
   000018 //  DSN=<dsnclst>
   ```

   to the following if you are using Db2 version 11

   ```
   000018 //  DSN=DSNB10.SDSNCLST
   ```

3. Change all occurrences of DB2VZPRM to DB2V**v**

   where:

   v

   Corresponds to the version of Db2 you are planning to use with FOCUS. Change **v** to

   `9PRM` for Db2 v9.

   `10PR` for Db2 v10.

   `11PR` for Db2 v11 and Db2 v12.

4. On line 30, change the high-level qualifier of the CONF.DATA data set to the high-level qualifier for your installed version of FOCUS.

   For example, change the following line

   ```
   000030 DATASET('QCSPDS.BF7706M.G971.CONF.DATA(DB2VZPRM)') +
   ```

   to the following, if the high-level qualifier under which FOCUS was installed is HLQ

```
000030 DATASET('HLQ.CONF.DATA(DB2V11PR)') +
```

5. Change all occurrences of <subsystem> to the name of your Db2 SSID.

   For example, change the following line

   ```
   000035 SYSTEM(<subsystem>) +
   ```

   to the following, if your Db2 SSID is DBBA

   ```
   000035 SYSTEM(DBBA) +
   ```

6. Change all occurrences of <plan name> to the plan name you will use to access Db2.

   For example, change the following line

   ```
   000039 PLAN(<plan name>) +
   ```

   to the following, if your Db2 PLAN is DSQL

   ```
   000039 PLAN(DSQL) +
   ```

7. Change the OWNER parameter to be the ID of the person who will be running the bind job, and replace the JOB card with a valid JOB card for your site.

The default IDB2BIND process will create a package with the name of IBI_<plan_name> using the <plan_name> that was identified in step 6. If the package name will be something else, lines 40 and 44 will also need to be changed to use the new package name.

Submit the modified IDB2BIND JCL. This job must be run with a USERID that has DBA authority.

The job was successful if it finished with a condition code of 0, and the end of the SYSTSPRT messages shows the following message

```
DSNT200I  -DBBA  BIND FOR PLAN <plan name> SUCCESSFUL

DSNH740I ======= BIND PLAN FINISHED, RC =  0=========================
```

Identify the Application Plan and Subsystem ID to ibi FOCUS

Add the following lines to **hlq**.ERRORS.DATA(FOCPROF)

```
{ENGINE|SQL} DB2 SET SSID ssid
```

```
{ENGINE|SQL} DB2 SET PLAN planname
```

where:

ssid

Is the subsystem ID that was specified in Step 5 of Create the BIND Member and Submit the BIND Job.

planname

Is the plan that was specified in Step 6 of Create the BIND Member and Submit the BIND Job.

The following additional default parameters can be placed in FOCPROF.

```
{ENGINE|SQL} DB2 SET AUTODISCONNECT {ON FIN|ON COMMIT}
```

```
{ENGINE|SQL} DB2 SET AUTOCLOSE {ON FIN|ON COMMIT}
```

```
{ENGINE|SQL} DB2 SET AUTOCOMMIT {ON COMMAND|ON CRTFORM|ON FIN}
```

```
{ENGINE|SQL} DB2 SET ISOLATION {CS|RR|RS|UR}
```

```
{ENGINE|SQL} DB2 SET ERRORTYPE {FOCUS|DBMS}
```

```
{ENGINE|SQL} DB2 SET DBSPACE database.tablespace
```

```
{ENGINE|SQL} DB2 SET FETCHSZIE n
```

where:

n

Is a value between 1 and 32000.

Grant Access to the Application Plan

For the application plan, you can grant access to selected users or all users (PUBLIC). The SQL GRANT command can be executed from within any SQL processor facility (such as IBM's SPUFI). Specify the GRANT EXECUTE statement with the plan name you specified in the bind job.

If you created more than one plan for the adapter, you must grant permission for all of them. If you are unsure about the implications of the GRANT command, contact your Db2 database administrator.

If your user ID was the creator of the plan, you may also issue the GRANT statement from within the FOCUS environment. If you are using FOCUS, precede the GRANT statement with **SQL DB2** or **ENGINE DB2**. To distribute EXECUTE privileges, issue:

```
GRANT EXECUTE ON plan TO {sqluserid1,sqluserid2...|PUBLIC} ;
```

where:

plan

Is the application plan created by the bind job.

sqluserid1,sqluserid2

Are authorized user IDs for individual users.

PUBLIC

Allows all users to access the specified plan.

Grant Access to User Tables

You must authorize adapter users to access their tables and views with the GRANT SELECT statement. If you are unfamiliar with the GRANT command or if you do not have SELECT

authorization for the tables (or views), contact your Db2 database administrator to assist you.

To distribute SELECT privileges, issue

```
GRANT SELECT ON object_name TO {sqluserid|PUBLIC} ;
```

where:

object_name

Is the name of the table or view.

sqluserid

Allows all users to access the specified table or view.

Create a Procedure to Access ibi FOCUS and Verify Adapter Installation

Create a CLIST or JCL to run FOCUS with the Adapter for Db2, and run a sample request to test the adapter installation and connection.

Sample CLIST to Access Db2 From ibi FOCUS Using an EDASERVE Configuration File

You can use this sample CLIST as a template. Edit it to conform to the standards of your site.

```
ALLOC F(FOCLIB)    DA('hlq.FOCLIB.LOAD') SHR REUSE
ALLOC F(ERRORS)    DA('user.DB2CAF.CFG' -
                      'hlq.ERRORS.DATA') SHR REUSE
ALLOC F(MASTER)    DA('user.MASTER.DATA' -
                      'hlq.MASTER.DATA') SHR REUSE
ALLOC F(FOCSQL)    DA('user.FOCSQL.DATA' -
                      'hlq.FOCSQL.DATA') SHR REUSE
ALLOC F(FOCEXEC)   DA('user.FOCEXEC.DATA' -
```

```
                        'hlq.FOCEXEC.DATA') SHR REUSE
CALL 'hlq.FOCLIB.LOAD(FOCUS)'
```

where:

hlq

Is the high-level qualifier for your FOCUS production data sets.

user

Is the high-level qualifier for the private version of a data set.

Note:

- Before executing your CLIST, you must be sure that your Db2 load libraries are available either by allocating them to DDNAME STEPLIB or by having them in the LINKLIST.
- The data set **user**.DB2CAF.CFG in the allocation for DDNAME ERRORS contains the EDASERVE member.

Execute the CLIST to invoke FOCUS and issue the following commands at the FOCUS prompt, pressing Enter after each line.

```
SQL DB2 ?
SQL DB2
SELECT * FROM SYSIBM.SYSDUMMY1;
END
```

If the adapter settings and the request output displayed, the installation and connection were successful. Issue the following command to exit FOCUS.

```
FIN
```

If you disabled Direct SQL Passthru, instead of getting the report output, you will get the following message.

```
(FOC1570) DIRECT PASSTHRU DISABLED ON THIS SERVER.
```

You should then run the following version of the request that does not use Direct SQL Passthru.

```
CREATE SYNONYM _edatemp/SYSDUM1 DROP
   FOR SYSIBM.SYSDUMMY1
   DBMS DB2
END
TABLE FILE _edatemp/SYSDUM1
PRINT *
END
```

If the request output displayed, the installation and connection were successful. Issue the following command to exit FOCUS.

```
FIN
```

Sample CLIST to Access Db2 From ibi FOCUS Using the RRSET Module

You can use this sample CLIST as a template. Edit it to conform to the standards of your site.

```
ALLOC F(FOCLIB)    DA('hlq.USE.FOCSQL.LOAD' -
                      'hlq.FOCLIB.LOAD') SHR REUSE
ALLOC F(ERRORS)    DA('hlq.ERRORS.DATA') SHR REUSE
ALLOC F(MASTER)    DA('user.MASTER.DATA' -
                      'hlq.MASTER.DATA') SHR REUSE
ALLOC F(FOCSQL)    DA('user.FOCSQL.DATA' -
                      'hlq.FOCSQL.DATA') SHR REUSE
ALLOC F(FOCEXEC)   DA('user.FOCEXEC.DATA'
                      'hlq.FOCEXEC.DATA') SHR REUSE
CALL 'hlq.FOCLIB.LOAD(FOCUS)'
```

where:

hlq

Is the high-level qualifier for your FOCUS production data sets.

user

Is the high-level qualifier for the private version of a data set.

Note:

- Before executing your CLIST, you must be sure that your Db2 load libraries are available either by allocating them to DDNAME STEPLIB or by having them in the LINKLIST.
- The data set **hlq**.USE.FOCSQL.LOAD in the FOCLIB allocation contains the RRSET module.

Execute the CLIST to invoke FOCUS and issue the following commands at the FOCUS prompt, pressing Enter after each line.

```
SQL DB2 ?
SQL DB2
SELECT * FROM SYSIBM.SYSDUMMY1;
END
```

If the adapter settings and the request output displayed, the installation and connection were successful. Issue the following command to exit FOCUS.

```
FIN
```

If you disabled Direct SQL Passthru, instead of getting the report output, you will get the following message.

```
(FOC1570) DIRECT PASSTHRU DISABLED ON THIS SERVER.
```

You should then run the following version of the request that does not use Direct SQL Passthru.

```
CREATE SYNONYM _edatemp/SYSDUM1 DROP
   FOR SYSIBM.SYSDUMMY1
   DBMS DB2
END
TABLE FILE _edatemp/SYSDUM1
PRINT *
END
```

If the request output displayed, the installation and connection were successful. Issue the following command to exit FOCUS.

```
FIN
```

Sample JCL to Access Db2 From ibi FOCUS Using an EDASERVE Configuration File

You can use this sample JCL as a template. Edit it to conform to the standards of your site.

```
//job card goes here
//         CLASS=A,MSGCLASS=Q,REGION=64M,TIME=40,MSGLEVEL=(1,1)
//*
//FOCDB2  EXEC PGM=FOCUS
//STEPLIB  DD  DSN=hlq.FOCSQL.LOAD,DISP=SHR
//         DD  DSN=hlq.FOCLIB.LOAD,DISP=SHR
//         DD  DSN=DSNv10.SDSNLOAD,DISP=SHR
//ERRORS   DD  DSN=hlq.ERRORS.DATA,DISP=SHR
//         DD  DSN=user.DB2CAF.CFG,DISP=SHR
//MASTER   DD  DSN=user.MASTER.DATA,DISP=SHR
//         DD  DSN=hlq.MASTER.DATA,DISP=SHR
//FOCEXEC  DD  DSN=user.FOCEXEC.DATA,DISP=SHR
//         DD  DSN=hlq.FOCEXEC.DATA,DISP=SHR
//FOCSQL   DD  DSN=user.FOCSQL.DATA,DISP=SHR
//         DD  DSN=hlq.FOCSQL.DATA,DISP=SHR
//SYSPRINT DD  SYSOUT=*
//SYSIN    DD  *
SQL DB2 ?
SQL DB2
SELECT * FROM SYSIBM.SYSDUMMY1;
END
FIN
/*
```

where:

hlq

Is the high-level qualifier for your FOCUS production data sets.

v

Is the version of Db2 you will use with FOCUS.

user

Is the high-level qualifier for the private version of a data set.

Note: The data set **user**.DB2CAF.CFG contains the EDASERVE member and must be allocated to DDNAME ERRORS.

If the adapter settings and the request output displayed, the installation and connection were successful.

If you disabled Direct SQL Passthru, instead of getting the report output, you will get the following message.

```
(FOC1570) DIRECT PASSTHRU DISABLED ON THIS SERVER.
```

You should then run the following version of the request that does not use Direct SQL Passthru.

```
CREATE SYNONYM _edatemp/SYSDUM1 DROP
   FOR SYSIBM.SYSDUMMY1
   DBMS DB2
END
TABLE FILE _edatemp/SYSDUM1
PRINT *
END
```

If the request output displayed, the installation and connection were successful.

Sample JCL to Access Db2 From ibi FOCUS Using the RRSET Module

You can use this sample JCL as a template. Edit it to conform to the standards of your site.

```
//job card goes here
//         CLASS=A,MSGCLASS=Q,REGION=64M,TIME=40,MSGLEVEL=(1,1)
//*
//FOCDB2  EXEC PGM=FOCUS
//STEPLIB  DD  DSN=hlq.USE.FOCSQL.LOAD,DISP=SHR
//         DD  DSN=hlq.FOCSQL.LOAD,DISP=SHR
//         DD  DSN=hlq.FOCLIB.LOAD,DISP=SHR
//         DD  DSN=DSNv10.SDSNLOAD,DISP=SHR
//ERRORS   DD  DSN=hlq.ERRORS.DATA,DISP=SHR
//MASTER   DD  DSN=user.MASTER.DATA,DISP=SHR
//         DD  DSN=hlq.MASTER.DATA,DISP=SHR
//FOCEXEC  DD  DSN=user.FOCEXEC.DATA,DISP=SHR
//         DD  DSN=hlq.FOCEXEC.DATA,DISP=SHR
//FOCSQL   DD  DSN=user.FOCSQL.DATA,DISP=SHR
```

```
//         DD  DSN=hlq.FOCSQL.DATA,DISP=SHR
//SYSPRINT DD  SYSOUT=*
//SYSIN    DD  *
SQL DB2 ?
SQL DB2
SELECT * FROM SYSIBM.SYSDUMMY1;
END
FIN
/*
```

where:

hlq

Is the high-level qualifier for your FOCUS production data sets.

v

Is the version of Db2 you will use with FOCUS.

user

Is the high-level qualifier for the private version of a data set.

Note: The data set **hlq**.USE.FOCSQL.LOAD contains the RRSET module and must be in the allocation for DDNAME STEPLIB.

If the adapter settings and the request output displayed, the installation and connection were successful.

If you disabled Direct SQL Passthru, instead of getting the report output, you will get the following message.

```
(FOC1570) DIRECT PASSTHRU DISABLED ON THIS SERVER.
```

You should then run the following version of the request that does not use Direct SQL Passthru.

```
CREATE SYNONYM _edatemp/SYSDUM1 DROP
   FOR SYSIBM.SYSDUMMY1
   DBMS DB2
END
TABLE FILE _edatemp/SYSDUM1
```

```
PRINT *
END
```

If the request output displayed, the installation and connection were successful.

Installing the Adapter for Db2 to Use CLI on UNIX

On UNIX, you connect to Db2 using the Call Level Interface (CLI). You can use the CLI facility to call Db2 from FOCUS.

Creating Configuration Files for Access to Db2 on UNIX Using CLI

Accessing Db2 using CLI requires two configuration files in the ibi/srv77/foc directory. These two configuration files are named edaserve.cfg, which is in the bin subdirectory, and edasprof.prf, which is in the etc subdirectory.

Configure the edaserve.cfg Configuration File for Access to Db2 Using CLI

The edaserve.cfg file, located in the ibi/srv77/foc/bin directory, must contain the following attributes:

```
db2_cli = y
db2_rel = v
db2_access = y
```

where:

v

Is your release of Db2.

Configure the edasprof.prf Profile for Access to Db2 Using CLI

In order to access Db2 from FOCUS, you must issue the SET CONNECTION_ATTRIBUTES command. If you place this command in edasprof.prf, it will be issued automatically when FOCUS is invoked. The edasprof.prf file is located in the ibi/srv77/foc/etc directory.

Alternatively, you can issue the SET CONNECTION_ATTRIBUTES command after invoking FOCUS. You must get the appropriate LOCATION, USERNAME, and PASSWORD from your database administrator.

To issue the SET CONNECTION_ATTRIBUTES command automatically when FOCUS is invoked, add the following to the edasprof.prf file:

```
ENGINE DB2 SET CONNECTION_ATTRIBUTES connamelocation/username,password
```

where:

conname

Is a name for the connection.

location

Is the Db2 data source location (DSN name).

username

Is the user ID connecting to Db2.

password

Is the password for the user ID connecting to Db2.

Verifying Adapter Installation

After creating the configuration files for accessing Db2 from FOCUS using CLI, you must verify that access to Db2 from FOCUS has been configured correctly.

1. Start FOCUS.

2. Issue the following commands:

```
SQL DB2 ?
SQL DB2
SELECT * FROM SYSIBM.SYSDUMMY1;
END
```

You should see output similar to the following.

```
>>sql db2 ?
(FOC1450) CURRENT DB2      INTERFACE SETTINGS ARE :
(FOC1656) DEFAULT SERVER NAME                 -  : CON01 dbm76
(FOC1424) ISOLATION LEVEL FOR DB2 TABLE INTERFACE IS  : RC
(FOC1496) AUTODISCONNECT OPTION IS            -  : ON FIN
(FOC1499) AUTOCOMMIT OPTION IS                -  : ON COMMAND
(FOC1706) ODBC CONCUR IS       -  : DEFAULT
(FOC1491) FETCH BUFFERING FACTOR              -  : 100
(FOC1531) INSERT BUFFERING FACTOR             -  : 1
(FOC1723) TRANSACTION MODE IS                 -  : ON
(FOC1441) WRITE FUNCTIONALITY IS              -  : ON
(FOC1445) OPTIMIZATION OPTION IS              -  : ON
(FOC1763) IF-THEN-ELSE OPTIMIZATION IS        -  : ON
(FOC1484) SQL ERROR MESSAGE TYPE IS           -  : DBMS
(FOC1552) INTERFACE DEFAULT DATE TYPE         -  : NEW
(FOC1446) DEFAULT DBSPACE IS                  -  :

sql db2
select * from sysibm.sysdummy1;
end

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IBMREQD
-------
Y
```

If the request output displayed, the installation and connection were successful. Issue the following command to exit FOCUS.

```
FIN
```

If you disabled Direct SQL Passthru, instead of getting the report output, you will get the following message.

```
(FOC1570) DIRECT PASSTHRU DISABLED ON THIS SERVER.
```

You should then run the following version of the request that does not use Direct SQL Passthru.

```
CREATE SYNONYM _edatemp/SYSDUM1 DROP
   FOR SYSIBM.SYSDUMMY1
   DBMS DB2
END
TABLE FILE _edatemp/SYSDUM1
PRINT *
END
```

If the request output displayed, the installation and connection were successful.

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