

Data Express 4.0

Installation Guide

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Publications

The following documentation is available for Data Express:

Data Masking Guide	This guide outlines the concepts and procedures used by the Data Masking module. Data Masking makes sensitive data anonymous in application test environments while maintaining the same characteristics as the original data.
Data Model Guide	This guide provides descriptions of the table structures used in the Data Builder, Data Masking, and Data Subset Extraction modules.
Data Subset Extraction Guide	This guide outlines the concepts and procedures used by the Data Subset Extraction module. Data Subset Extraction uses selection criteria specified by the user to create a new test environment from an existing environment.
Error Messages	This guide provides a detailed list of all warning, error, and informational messages that can be displayed in log files during batch processing or on the screen during elaboration processing.
Front End Guide	This guide outlines the concepts and procedures used by Data Express, a product that lets you analyze the database of a given application.
Getting Started with Distributed Data Stores	This guide contains explanatory information and a series of tutorials that show you how to start using Data Express. The tutorials introduce the major features in a number of short sessions, typically 10-30 minutes.
Getting Started with z/OS Data Stores	This guide contains explanatory information and a series of tutorials that show you how to start using Data Express in order to analyze and manage data stores from System z servers running z/OS. The tutorials introduce the major features in a number of short sessions, typically 10-30 minutes.
Installation Guide	This guide outlines the concepts and procedures needed to install Data Express.
Life Cycle Guide	This guide provides step-by-step instructions to help you handle modifications within the layout of the files already processed by Data Express.
Process for z/OS Guide	This guide outlines the concepts and procedures used by Data Express for z/OS. It shows how to start and work with Data Express in the mainframe environment.
Readme	Contains general information on the product including hardware and software requirements, backward compatibility, and known errors and restrictions.
Toolkit (z/OS) Guide	This guide outlines the concepts and procedures used by the Data Express Toolkit, which is a collection of utilities that help provide input to Data Express processes in order to automate data inventory functionality. It shows how to start and work with the Toolkit in a mainframe environment.

About This Guide

This guide outlines the concepts and procedures needed to install Data Express.

Who Should Read This Guide

This guide is for all users who are installing Data Express for z/OS or Data Express for distributed systems. After installing, you need to install the latest updates from the [Micro Focus SupportLine](#) web site.

z/OS System Procedures

This chapter describes the installation media and procedures needed to successfully install Data Express for z/OS. If you are installing Data Express for distributed systems, you can skip this chapter.

Installation Information

This section contains information regarding z/OS system installations.

After installing, you need to install the latest updates from the Micro Focus SupportLine web site. See the section *Updates and SupportLine* for more information.

Installation Media

Data Express for z/OS is typically installed from a CD that contains:

- IEUBPDTE - A JCL in ASCII format used to restore INSTLIB from a sequential data set.
- All of the partitioned data set members, unloaded in a sequential (IEBUPDTE) format.



Note: If you downloaded Data Express from the web site or received it as an e-mail attachment, it is stored in a compressed ZIP file that contains the CD image. For the installation, assume the folder where the ZIP file has been uncompressed is the CD drive.

Installation Phases

The installation of the Data Express for z/OS module includes six main phases.

Software Setup

This phase creates and populates the libraries containing the installation procedure.

Parameters Selection

This phase allows the editing of the installation procedure parameters. In particular, the alias of the PDSs and sequential files (for example, CLIST, JCL, or DDL) where the product modules will reside is required.

In addition, the following DB2 related information is required:

- DSN on which the database must be created.
- Name of the storage group (already existing or to be created).
- Name of the DB2 database to be created.
- Name of the owner for the DB2 tables that will be created.
- Name of the plan and collection to be created.
- Names of the buffer pools for data and indexes.
- Plan of the DB2 system DSNTIAD.

- Plan of the DB2 system DSNTIAUL.
- Names of the DB2 system libraries (RUNLIB and SDSNLOAD).

Data Set Libraries installation

This phase creates and populates the product libraries. The following requirements must be met:

- RACF authorizations at the TSO level (create, update, delete) need to be provided to the product PDSs and sequential files.
- The TCP/IP address of the mainframe must be specified where required.
- The specified user must be authorized to transfer data from the PC to the mainframe.

User Profile Update

This phase updates the MVS user profile in order to properly work with the product.

Database Creation

This phase creates the product DB2 database.



Note: Skeleton names IURBNDPK and SINCR TAB needed for the bind phase, which can be changed to use an authorization policy different from the standard.



Note: The specified user must be authorized to create the product DB2 database (storage group and database), to create tablespaces, views, indexes, and to execute package and plan binds.

Database Population

This phase populates the product DB2 database.

New Software Installation Procedures

This section contains information regarding z/OS system installation procedures. Perform the procedures in this section if you are installing Data Express for z/OS for the first time.

Software Setup

To install Data Express, extract the files contained in the zip file `zOS.zip` of the installation media into an empty directory. This directory is referred to as your installation directory.

To begin your installation, follow the steps in the subsequent sections.

Allocating the Installation Sequential Data Set

To allocate the installation sequential data set:

1. From the **ISPF Primary Option Menu** panel, select option **Utilities**.
2. From the **Utility Selection** panel, select the option **Data Set**.
3. In the **Name** field, type the name of an installation sequential data set (for example, **MFDATA.INST.LIB.SEQ**) to load the installation JCLs in IEBUPDTE format from the folder **Installation Procedure** on the CD-ROM. Specify option **A** to allocate the data set.
4. On the **Allocate New Set** panel, enter the appropriate parameters.



Note: The default **Space units** parameter is **CYLS** (cylinders).

The **Allocate New Data Set** menu that shows the current allocation parameters is displayed.

Once allocated, a `Data set allocated` message is displayed in the right-hand corner.

Copying the IEBUPDTE.JCL File to the Mainframe

To copy the `IEBUPDTE.JCL` file to the mainframe:

1. Copy the source of `Iebupdte.jcl` from the `Installation Procedure` folder, in ASCII mode, into a member of a partitioned data set, or use Personal Communications or FTP to transfer the source into an existing PDS. You can use a batch command (`ftpinst.bat`) that executes an FTP script (`ftpinst.txt`) or a PC3270 transfer file list (`inst.srl`).



Note: Before transferring files, you must customize the FTP script or PC3270 transfer file list to include the correct values. (See the `Readme_Floppy.txt` in the `Installation Procedure` folder for specific customization instructions.)

2. Customize the file `ftpinst.txt` located in the folder `**\HostSide\Installation Procedure` on the CD. A sample of the file `ftpinst.txt` is shown below:

```
open 123.123.123.123
USER
PSWD
cd ..
bin
put iebupdte.jcl 'HLQ.SLQ.USERLIB(IEBUPDTE) '
disconnect
quit
```

3. From a Windows command prompt, change to the `**\HostSide\Installation Procedure` directory and execute the following command:

```
ftp -s:ftpinst.txt
```

4. the file `Instlib.bin` from the CD to the sequential data set that you have allocated.



Note: You can use file `ftpputinstlib.txt` located in the folder `**\HostSide\Installation Procedure` for the file `Instlib.bin` to transfer the files.

Copying the Installation Data Set to the Mainframe

To copy the installation data set to the mainframe:

1. Customize the file `ftpputinstlib.txt` located in the folder `**\HostSide\Installation Procedure` on the CD. A sample of the file `ftpputinstlib.txt` is shown below:

```
open 123.123.123.123
YOURUSERID
YOURPASSWORD
cd ..
bin
put instlib.bin 'HLQ.SLQ.MFDATA.INSTJB.LIB.SEQ'
disconnect
quit
```

2. After customizing the files, copy the `ftpputinstlib.txt` file into the directory `\HostSide\Bin` within your installation directory. From a command prompt, change to the `**\HostSide\Bin` directory and execute the following command:

```
ftp -s:ftpputinstlib.txt
```

Modifying the IEBUPDTE.JCL File

Use the ISPF editor to modify the `IEBUPDTE` member to define the installation PDS where the sequential data set is loaded.

To modify the `IEBUPDTE.JCL` file:

```
//IEBUPDTE JOB (00001),MU,MSGCLASS=A,CLASS=A,NOTIFY=&SYSUID
//*****
```

```

/** THIS JOB CREATES THE PDS FOR THE INSTALLATION PROCEDURE AND
/** LOADS IT FROM THE SEQUENTIAL FILE.
/**
/** YOU HAVE TO SPECIFY SOME INFORMATION.
/** TO DO SO, YOU HAVE TO CHANGE THE FOLLOWING WORDS IN THIS JOB:
/**
/** 1) CHANGE '$PDSINST' TO THE NAME OF THE INSTALLATION PDS
/** 2) CHANGE '$SEQINST' TO THE NAME OF THE INSTALLATION SEQ. FILE
/** 3) CHANGE '$UNIT' TO THE NAME OF THE UNIT
/** 4) CHANGE '$VOLSER' TO THE NAME OF THE VOLUME
/** *****
//STEP100 EXEC PGM=IEFBR14
//SYSPRINT DD SYSOUT=*
//PO DD DSN=$PDSINST,
// UNIT=$UNIT,DISP=(NEW,CATLG),
// VOL=SER=$VOLSER,SPACE=(TRK,(15,15,30)),
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=27920,DSORG=PO)
/**-----
//STEP200 EXEC PGM=IEBUPDTE,PARM=MOD
//SYSPRINT DD SYSOUT=*
//SYSUT1 DD DISP=OLD,DSN=$PDSINST
//SYSUT2 DD DISP=OLD,DSN=$PDSINST
//SYSIN DD DISP=OLD,DSN=$SEQINST

```

1. Change the JOB card using the standard customer parameters:

- \$PDSINST – the installation PDS name, for example: MFDATA.INST.LIB.
- \$SEQINST – the sequential data set name, for example: MFDATA.INST.LIB.SEQ.
- \$UNIT – the DASD unit name, for example: SYSDA.
- \$VOLSER – the VOLUME name (for SMS managed DASD you must delete *VOL=SER=\$VOLSER* from the JCL).

2. Submit IEBUPDTE to allocate and load the installation PDS.

3. Browse the INST.LIB PDS.

4. Select the member INSTLIB (not INST.LIB) using the Edit option. Change the first parameter in the CLIST INST.LIB (INSTLIB) to use the name of the installation PDS INST.LIB, and then execute the CLIST command file.

For example, execute the TSO command:

```
TSO EX `** .INST.LIB (INSTLIB) `
```



Note: You can also execute the CLIST by typing **ex** on the line for the member INSTLIB.


The **Product Installation Menu** panel is displayed.


Completing the Product Installation

To complete the product installation:

1. Select the **Edit Product Installation Parameters** option to display the **Product Installation Parameters** panel, where you can choose the name of the installation PDS and the parameter data set (that contains all of this information).

- 👉 **Important:** The name of the library containing all the jobs to be submitted will be created by putting together the Submitted Job Library Prefix (if it exists, this is an optional field), the user ID and the Submitted Job Library Suffix, all separated by a period ..

 **Important:** The `Parameter Data Set` is a sequential file containing the environment parameters. The prefix of the name of this file must be different from the product library prefix. This file is also referred to as the `KBPARM` file. Be sure the file qualifier is one that you have authority to allocate.

 **Note:** At the end of the edit session, the **Product Installation Menu** panel will be displayed again. Press `F3` to exit the menu without submitting the jobs.

2. On the **Product Installation Menu** panel, select option `Edit CD Installation Parameters` to display the **CD Installation Parameter** panel so that you can choose the sequential files (SEQ) prefix for file transfer.

You must customize the `Unit` and `Volume` name, although the latter can be left blank for SMS managed DASD. The parameter `Override PDS Prefix existence (N)` prevents data set allocation if a data set exists with the same prefix. If you need to use an existing prefix, specify `Y`.

 **Note:** Press `Enter` to display the **Product Installation Menu** panel again.

3. On the **Product Installation Menu** panel, select option **Edit Knowledge Base Parameters** to display the **Knowledge Base Parameters** panel so that you can insert name parameters such as DB2 and Language Environment PDS, DB2 storage group, database plan and collection, owner, and buffer pool.
4. Insert parameter names into all fields as all parameters are mandatory:

- Name of `DB2 Subsystem (Dsn)` – Name of the DB2 subsystem where the product tables will be created.
- Name of `Current SQLID` – Name of the DB2 user who will perform the product tables creation.
- Name of `Micro Focus Data Plan` – Name of the plan for the product.
- Name of `Micro Focus Data Collection` – Name of the collection containing the product package.
- Name of `Micro Focus Data Storage Group` – Name of the DB2 storage group where the product tables will be created.
- Name of `Micro Focus Data Database` – Name of the DB2 database where the product tables will be created.
- Name of `Micro Focus Data Database Owner` – Name of the DB2 creator that will be used in order to create all the product tables.
- Name of `Bufferpool for data and index` – Names of the two buffer pools containing the data and the indexes of the product tables. They can contain the same value.
- Name of `DSNTIAD Program` – Name of DSNTIAD program or equivalent.
- Name of `DSNTIAD Plan` – Plan associated with DSNTIAD program or equivalent.
- Name of `DSNTIAUL Program` – Name of DSNTIAUL program or equivalent.
- Name of `DSNTIAUL Plan` – Plan associated with DSNTIAUL program or equivalent.
- `Dsname of DB2 Sdsnload` – DB2 SDSNLOAD library.
- `Dsname of DB2 Runlib` – DB2 RUNLIB library.

 **Note:** Press `Enter` to display the **Product Installation Menu** panel again.

5. On the **Product Installation Menu** panel, select option `Edit Knowledge Base Size Parameters` to display the **Knowledge Base Size Parameters** panel so that you can customize size parameters such as the number of files, the number of fields for a single file, and the number of copies.

Customize the following size parameters:

- `Files Number` – Total estimated number of files that will be cataloged in the environment to be created. By files, we mean single DB2 or Oracle or SQL Server tables, single record formats of a flat file, single formats of a DL/I segment, or single Adabas files.
- `Fields Numbers (For File)` – Average number of fields for each file.

- Copy Number – Total estimated number of different copybooks I/O areas that will be cataloged in the environment to be created.
 - Fields Numbers (For Copy) – Average number of fields for copybook I/O areas.
 - Data Changer Files Number – Total estimated number of files that will be reduced or masked.
 - Data Changer Fields Numbers (For File) – Average number of fields for each file that will be reduced or masked.
6. On the **Product Installation Menu** panel, select option `Edit Job Card` for `Installation Jobs` so that you can change the `JOB` cards of `Data Express` jobs.



Note: If you have line limits set in JES, then you should add `/*JOBPARM LINES=999` or `/*JOBPARM LINES = (999999,WARNING)` to the `JOB`CARD.



Note: To preview the job before submitting it, set `TYPRUN=HOLD`.

Continue to the section *Data Set Libraries Installation*.

Installing the Data Set Libraries

This procedure describes how to install the data set libraries.

1. On the **Product Installation Menu** panel, select option `Load Product from CD` to display the **Load Product from CD** panel.

The **Load Product from CD** panel contains 3 options:

- `PDS` and `SEQ` product allocation – Submits jobs to allocate the `PDS` and `SEQ` files that make up `Data Express`.
- Allocation of sequential file for `FTP` – Submits a job to allocate a sequential file for file transfer.
- `Load Product from sequential files` – Submits a job to load `Data Express` from sequential files.

After allocating `PDS` and `SEQ` files and the sequential file for `FTP`, you must transfer the `Data Express` sequential data sets to the mainframe so they can be used to populate the product installation `PDS` libraries. Once completed, then you can load `Data Express`.

Use `FTP` or `Personal Communication` to load `SEQ` data sets. The `Installation Procedure` folder contains a `PC3270` transfer file list (`kbd.srl`) and a batch command (`ftpput.bat`) that executes an `FTP` script (`ftpput.txt`). See `Readme_Cd.txt` in the `Installation Procedure` folder for specific customization instructions. If the files are located on the hard drive, modify batch script files to recognize this.

2. Customize the file `ftpput.txt` located in the folder `**\HostSide\Installation Procedure` on the `CD`.

```
open 123.123.132.123
YOURUSERID
YOURPASSWORD
cd ..
bin
put bind.bin          'MFI01.DE.V3R5M0.SEQ.bind'
put cbl.bin           'MFI01.DE.V3R5M0.SEQ.cbl'
put clist.bin         'MFI01.DE.V3R5M0.SEQ.clist'
put copy.bin          'MFI01.DE.V3R5M0.SEQ.copy'
put dbrmlib.bin       'MFI01.DE.V3R5M0.SEQ.dbrmlib'
put ddl.bin           'MFI01.DE.V3R5M0.SEQ.ddl'
put ddlalter.bin      'MFI01.DE.V3R5M0.SEQ.ddlalter'
put jcl.bin           'MFI01.DE.V3R5M0.SEQ.jcl'
```

```

put load.bin          'MFI01.DE.V3R5M0.SEQ.load'
put obj.bin           'MFI01.DE.V3R5M0.SEQ.obj'
put package.bin       'MFI01.DE.V3R5M0.SEQ.package'
put panel.bin         'MFI01.DE.V3R5M0.SEQ.panel'
put skel.bin          'MFI01.DE.V3R5M0.SEQ.skel'
put syspunch.bin      'MFI01.DE.V3R5M0.SEQ.syspunch'
put hsurdmf.bin       'MFI01.DE.V3R5M0.hsurdmf'
put hsurdmfd.bin      'MFI01.DE.V3R5M0.hsurdmfd'
put usdchadd.bin      'MFI01.DE.V3R5M0.usdchadd'
put usdchnam.bin      'MFI01.DE.V3R5M0.usdchnam'
put usdchsur.bin      'MFI01.DE.V3R5M0.usdchsur'
put usdchcom.bin      'MFI01.DE.V3R5M0.usdchcom'
disconnect
quit

```

3. After customizing the files, copy the `ftpput.txt` file into the directory `\HostSide\Bin` within your installation directory. From a command prompt, change to the `**\HostSide\Bin` directory and execute the following command:

```
ftp -s:ftpput.txt
```

4. From the **ISPF Primary Option Menu** panel, specify option 3.4 to manage data sets and to obtain a member list of the sequential files for the data set. Press **PF11** and check the data set allocations to make sure all allocations are in less than 15 extents to be sure none failed to completely load.
5. Press **F3** to return to the **Product Installation Menu** panel.
6. Select option `Edit Job Cards for Micro Focus Data Jobs` on the **Product Installation Menu** panel.
7. Select option `Actualize Parameter` on the **Product Installation Menu** panel.

Updating the User Profile

When updating your user profiles, you must allocate Data Express PDSs to ISPF. For example: if your data set library prefix is `PPP.GGG` and the keylists of Data Express panels are contained in member `URDPROF` of `PPP.GGG.JCL`, you need to copy member `URDPROF` to `ISP.SISPTENU` or to `UserPrefix.ISPF.ISPPROF`.

To update user profiles:

1. From the **ISPF Primary Option Menu** panel, specify option 3.4 to manage data sets, and then browse the installation JCL library.
2. Next to the `URDPROF` member, type `c`.
3. In the `Name` field of the `To Other Data Set Name` section, specify the library where your ISPF profile can be found.
4. Exit your TSO session and start a new session.
5. Execute the TSO command:

```
TSO EXEC `PPP.GGG.CLIST(MFDATA)`
```

6. Invoke the `PFSHOW TAILOR` command and ensure the parameters are set to 2, 2, 1, and 1 respectively.
7. Save your changes.

Creating the Database

1. On the **Micro Focus Data - Main Menu** panel, select option `Environment Creation` to display the **Environment Creation** panel.

The **Environment Creation** panel contains 9 options:

1. **Linkedit All Modules** - Do not execute this option in a standard installation where you have installed the loaded PDS from a sequential load data set. Submits jobs to linkedit all Data Express object modules. **Warning:**
 2. **Insert Environment Information** - Inserts information about the environment and submits a job that results in the source member: `PPP.GGG.DDL (DB2NREC)`.
 3. **Calculate Tables Information** - Execute this option only if you are installing for the first time. Submits a job to calculate the values of parameters `PRIQTY`, `SECQTY`, `FREEPAGE`, `PCTFREE`, and `COMPRESS` for all tables used by Data Express.
 4. **Actualize All Tables** - Execute this option only if you are installing for the first time. Submits a job to actualize the DB2 table sources used by Data Express.
 5. **Create All Tables** - Execute this option only if you are installing for the first time. Creates the DB2 tables used by Data Express.
 6. **Create all Bind Packages and Plan JCL** - Creates Data Express DB2 and JCL to create packages and plan.
 7. **Submit all Bind Packages and Plan JCL** - Submits the JCL. The binding of all packages and plans is performed.
 8. **Load Message and Business Protection std tables** - Submits a job to load messages and Business Protection standard tables. This process is part of Database Population.
 9. **Load Process Ids and Classes Tables** - Submits a job to load the process IDs and classes tables. This process is part of Database Population.
2. If you have installed the loaded PDS from a sequential load data set, do not execute this option. Only if instructed to do so by Micro Focus, select option `Linkedit All Modules` to linkedit all Data Express object modules. If you do linkedit all modules, exit your TSO session and start a new session before proceeding.

3. Verify that the DB2 administrator has created a storage group and database, and has granted all the necessary authorizations to the database owner. A set of DDL samples creating those entities is provided with the product. The DDL to do this is `IURDDSG` and `IURDDDB` in the PDS `PPP.GGG.DDL`.



Note: If you use `SPUFI` and receive a `CODE PAGE` incompatibility error, you can ignore the message.

4. On the **ISPF Primary Option Menu** panel, select the option for `DB2I`.
5. Select the option for DB version, for example, `DB8`.
6. On the **DB2I Primary Option Menu** panel, select the option to start `SPUFI`.
7. On the **SPUFI** panel, specify the data set name and member of the DDL to create the Data Express database.



Note: If the warning `DSNE3451` appears, it can be ignored.

8. On the **Environment Creation** panel, select the option `Insert Environment Information` to insert information about the environment and to submit job `CALCREC` that displays the source member: `PPP.GGG.DDL (DB2NREC)`.




Note: The source member contains the estimated number of records for each table and index.


9. Note the estimated number of records for each table and index, and evaluate the size of the environment values.




Note: You must make your evaluation of the environment values as accurate as possible. `DB2NREC` is used in the following steps as a starting point in order to calculate the size of the tables. If the value in `DB2NREC` is too large, a space problem can result when creating tables later.

If the estimated number of records for a table or index is greater than 999,999, the batch job ends with return code "4," and a message containing the object name is issued in the job **SYSOUT**. If necessary, edit `PPP.GGG.DDL (DB2NREC)` to change the number of records before proceeding.


 **Note:** When you sample tables, the rules used to calculate the number of records assume that the sampling phase will be executed for all files. This is true if the environment is small, but if the environment contains thousands of files, the sampling could be executed only for some of the files, and the calculation criteria can change, so the actual number of records could be lower than the calculated one. This argument holds true for the following tables: ANURDLOG, ANURDSPE, and ANURDSPN (with their indices ANURDLOGX1, ANURDLOGX2, ANURDLOGX3, ANURDLOGX4, ANURDSPEX1, ANURDSPEX2, ANURDSPEX3, ANURDSPNX1, and ANURDSPNX2). A rule could be that all these files have the same number of records as ANURDFLF.

 **Note:** Execute this option only if you are installing Data Express for the first time. If you are installing it to upgrade a previous release, see the chapter *Upgrade Installation*.

10. On the **Environment Creation** panel, select the option `Calculate Tables Information` to submit the job `IURCQTY`.
11. On the **Environment Creation** panel, select the option `Actualize All Tables` to submit the job `SINACTAT`.
12. On the **Environment Creation** panel, select the option `Create All Tables` to submit the job `SINCRAT`.
13. On the **Environment Creation** panel, select the option `Create all Bind Packages and Plan JCL` to submit the job `SINACTAB`.

 **Note:** This job may return error messages at the end of the output JCL. If an error message is displayed at the end of the output JCL, note the Return Code.

14. On the **Environment Creation** panel, select the option `Submit all Bind Packages and Plan JCL` to submit a job to execute the binding for all packages and JCL plans to submit the job `SINCRTAB`.

 **Note:** This job may return error messages at the end of the output JCL. If you receive a Return Code of 0 after executing this JCL and the JCL in the previous step, the job was successful and the error messages can be ignored.

Populating the Database

Perform this procedure only if you are installing for the first time. If you are installing it to upgrade a previous release, see the chapter *Upgrade Installation*.

To populate the database:

1. On the **Environment Creation** panel, select option `Load Message and Business Protection std tables` to submit job `SURLPTB`. (This is described in the previous section.)
2. On the **Environment Creation** panel, select option `Load Process Ids and Class Tables` to submit job `IURLOAST`. (This is described in the previous section.)

The installation is now complete. Before using the product, you must enable it.

Enabling the Product

To use the fully enabled version of Data Express, you must retrieve and specify the software key. This key is used to activate all Data Express functions appropriate for your product license.

If the product is not fully enabled, some of the main batch jobs may terminate incorrectly.

Panels

This section describes the panels displayed by selecting options in the **Product Enabling** section of the **Main Menu** panel.



Note: If problems occur during product enabling, error messages might be displayed. For more information, see the *Error Messages* guide.

Get Request Key

The request key is the software key needed in order to activate Data Express.

To get the request key:

1. From the **Main Menu** panel, select option `Get Request Key` to display the **Get Request Key (CEURGST)** panel.
2. Note the string listed in the `Request Key` field, and contact Micro Focus SupportLine in order to obtain the associated software key.
3. Press **F3** to return to the **Main Menu** panel.

Apply Response Key

After receiving the response key, you must apply it to activate Data Express.

To apply the response key:

1. From the **Main Menu** panel, select option `Apply Response Key` to display the **Apply Response Key (CEURKEY)** panel.
2. Specify the software key you received from Micro Focus SupportLine.
3. Press **F3** to return to the **Main Menu** panel.

Display Enabled Options

After activation, you can verify the license status at any time.

To display enabled options:

1. From the **Main Menu** panel, select option `Display Enabled Options` to display the **Display Enabled Options** panel.
2. Note the information as appropriate.
3. Press **F3** to return to the **Main Menu** panel.

PTF Installation


To install a PTF, use the installation instruction document for that PTF.

To begin your PTF installation:


1. Restore the PTF objects in the PTF libraries.
2. On the **Main Menu** panel, select option `Apply PTF` to display the **Apply PTF** panel. The **Apply PTF** panel contains 7 options.

 **Note:** Based on the instructions listed in your PTF installation document, the following options may or may not apply.


- `Linkedit Module` - Submits a job to linkedit the specified module. After specifying the module name, press **Enter** to submit the job.

 **Note:** Use the `Linkedit Module` option for each object specified in the PTF installation instruction.


- `Duplicate Program` - Submits a job to create a duplicate of objects for the specified module. After specifying the module name and number of objects to create, press **Enter** to submit the job. (For the number of objects to create, see the *ReadMe* of the HotFix you are installing.)

 **Note:** Use the **Duplicate Program** option for each object specified in the PTF installation instruction.


- `Create Table` - Submits a job to create a DB2 table for an object specified in the PTF installation instruction. After specifying the table name, press **Enter** to submit the job.

 **Note:** Use the **Create Table** option for each object specified in the PTF installation instruction.

- `Update Table` - Submits a job to update the new DB2 table specified in the PTF installation instruction. After specifying the table name, press **Enter** to submit the job.

 **Note:** Use the **Update Table** option for each object specified in the PTF installation instruction.

- `Load Message Tables` - Submits a job to load message tables if specified in the PTF installation instruction. After specifying the table name, press **Enter** to submit the job.
- `Load Data Changer Tables` - Submits a job to load data changer tables if specified in the PTF installation instruction. After specifying the table name, press **Enter** to submit the job.
- `Bind Package` - Submits a job to bind a package for an object specified in the PTF installation instruction. After specifying the table name, press **Enter** to submit the job.

 **Note:** Use the `Bind Package` option for each object specified in the PTF installation instruction.

3. Perform the detailed PTF install procedure specified in the *ReadMe* in addition to the `Linkedit Module` and `Bind Package` steps.

New Modification Level Installation

Data Express modification levels can be found the Micro Focus SupportLine web site as WebSyncs. Download the appropriate wb zip files, uncompress the files, and store them in an installation directory so that these files can be used to be loaded in the mainframe.

To install the new modification level:

1. On the **Micro Focus Data - Main Menu** panel, select option `Installation New Modification Level` to display the **Installation New Modification Level - Main Menu** panel.
2. Select option **Allocate Temporary PDS** to submit the job `SEQALC` to create a temporary PDS to contain PTF objects. You must specify the first and second qualifier for the PDS and you must customize the `Unit` name and `Volume` name. However, the `Volume` name can be left blank for SMS managed DASD.
3. Press **Enter** to return to the **Installation New Modification Level - Main Menu** panel.
4. Select option `Allocate Sequential File for PTF` to submit the job `FTPALC` to create the working sequential files. You must specify the prefix to be used for the sequential files, and you must customize the `Unit` name and `Volume` name. However, the `Volume` name can be left blank for SMS managed DASDs.

5. Press **Enter** to return to the **Installation New Modification Level - Main Menu** panel.
6. Transfer the CD content into the previously created sequential files. First navigate to the installation directory containing the unzipped files and edit the file `ftpput.txt` so that each `SEQ` prefix is replaced with the fully qualified prefix for the data set name. Then from a command prompt, change to the installation directory and execute the following command:


```
ftp -s:ftpput.txt
```
7. Select option `Load Temporary PDS from Sequential Files` to submit the job `LOAPTF` to load the temporary PDS with PTF objects from the working sequential files. You must specify the first and second qualifier used to allocate the temporary PDS and the prefix used to allocate the sequential files created previously.
8. Press **Enter** to return to the **Installation New Modification Level - Main Menu** panel.
9. Select option `Save old PDS of PTF` to submit the job `SAVPDF` to save the PDS containing the latest PTF into the previously created temporary PDS. You must specify the same parameters as you did when executing the `Allocate Temporary PDS` option.
10. Press **Enter** to return to the **Installation New Modification Level - Main Menu** panel.
11. Select option `Rename PDS` to create a JCL with a new PDS containing the last PTF and to rename the previously created temporary PDS. You must specify the name of the temporary PDS used previously as the first parameter, and the name of the PDS that will contain the latest PTF as the second parameter.
12. Exit Data Express.
13. Exit the TSO session to release holds on data sets, and start a new session.
14. Execute the JCL you created using the option `Rename PDS` (job `RENPDFS` from your JCL library).
15. Restart Data Express. On the Micro Focus **Data - Main Menu** panel, select option `Installation New Modification Level`.
16. On the **Installation New Modification Level - Main Menu** panel, select option `Bind Package (PTF)` to submit the bind job `IURBNDPL`.
17. Select option `Linkedit Module` to submit linkedit jobs.
18. Select option `Bind Package (PER)` to submit bind jobs for personalized objects.
19. Select option `Update Modification Level` to execute a command to update the modification level. The **RELEASE** field on the **Main Menu** panel will be updated.
20. Only if you are migrating from 3.5.0 to 3.5.1 or later, execute the following command (without exiting the product):

```
tso iurupdtb ptf R35HSLOG
```

Toolkit Installation

To install the toolkit:

1. Select option **Toolkit Installation** from the **Main Menu** panel. The **Toolkit Installation - Main Menu** panel contains eight options.
2. Select option `Allocate Temporary PDS` to submit a job to create a temporary PDS to contain toolkit objects. You must specify the first and second qualifier for the PDS and you must customize the Unit name and Volume name. However, the Volume name can be left blank for SMS managed DASD.
3. Press **Enter** to return to the **Toolkit Installation - Main Menu** panel. A job will be submitted.
4. Select option `Allocate Sequential File for PER` to submit a job to create the working sequential files. You must specify the prefix to be used for the sequential files, and you must customize the Unit name and Volume name. However, the Volume name can be left blank for SMS managed DASDs.

5. Press **Enter** to return to the **Toolkit Installation - Main Menu** panel. The job `FTPALC` will be submitted.
6. Transfer the CD content into the previously created sequential files. First navigate to the installation directory containing the unzipped files and edit the file `ftpput.txt`. Then from a command prompt, change to the installation directory and execute the following command:


```
ftp -s:ftpput.txt
```
7. Select option `Load Temporary PDS from Sequential Files` to submit the job `LOAPTF` to load the temporary PDS with toolkit objects from the working sequential files. You must specify the first and second qualifier used to allocate the temporary PDS and the prefix used to allocate the sequential files created previously.
8. Press **Enter** to return to the **Toolkit Installation - Main Menu** panel. A job will be submitted.
9. From the **ISPF Primary Option Menu** panel, browse a temporary library to ensure that PDS has been loaded.
10. Select option `Save old PDS of PER` to submit a job to save the PDS containing the latest PTF into the previously created temporary PDS. You must specify the same parameters as you did when executing the `Allocate Temporary PDS` option.
11. Press **Enter** to return to the **Toolkit Installation - Main Menu** panel.
12. Select option `Rename PDS` to create a JCL with a new PDS containing the last version of the toolkit, and to rename the previously created temporary PDS. You must specify the name of the temporary PDS used previously as the first parameter and the name of the PDS that will contain the latest toolkit as the second parameter.
13. Press **Enter** to return to the **Toolkit Installation - Main Menu** panel. The job `RENPD` will be stored in the Jobs data set for submission.
14. After the job `RENPD` has finished executing, exit Data Express.
15. Exit the TSO session to release holds on data sets, and start a new session.
16. Execute the JCL you created using the option `Rename PDS`.
17. Restart Data Express, and select the option `Toolkit Installation` from **Main Menu** panel.
18. On the **Toolkit Installation - Main Menu** panel, select option `Bind Package (PER)` to submit bind jobs.
19. Select option `Linkedit Module` to submit linkedit jobs.
20. Select option `Create System Tables` to submit the creation of the view on systables.



Caution: Execute option `Create System Tables` only if you are installing Data Express for the first time. If you are installing it to upgrade a previous release, do not execute this option.

Software Upgrade

Perform the following procedure only if you are installing Data Express for z/OS to upgrade a previous release.

A DB2 administrator must perform this procedure. To upgrade Data Express:

1. From the chapter *Installation Procedures*, perform the procedures described in sections *Installation Material* through *Data Set Libraries Installation*.
2. If you are migrating from a version earlier than 3.5, execute an Unload of the following tables: `ANLICLOG`, `ANURDFLF`, `ANURDFXF`, `ANURDLOG`, and `ANURDSPE`.
3. On the **Micro Focus Data - Main Menu** panel, select option `Environment Update` to display the **Environment Update** panel.
4. The **Environment Update** panel contains five options. You need to complete them in order:

- `Update All Tables` - Submits a job for each changed or new table to create the DB2 tables used by the new release of Data Express, and to migrate the previous database instance. The release numbers for the tables you are updating are required. See the *Data Model Guide* for table information.
 - `Load Message Tables` - Submits a job to load the Data Express message tables.
 - `Load Data Changer Tables` - Submits a job to load the Data Changer Conversion tables. **Note:** Only execute the **Load Data Changer Tables** option if you are migrating a version older than V3R0.
 - `Bind All Packages and Plan` - Submits a job to execute the binding for all packages and JCL plans.
 - `Update Level Id` - Submits a job to update the Level ID for all sources. Update the Level ID only if you have verified that the HSLICLID table not is empty.
5. If you are migrating from a version earlier than 3.5, execute a Load of the following tables: ANLICLOG, ANURDFLF, ANURDFXF, ANURDLOG, and ANURDSPE.
 6. On the **Environment Creation** panel, select option `Create all Bind Packages and Plan JCL` to create a job for a new DB2 package and JCL plan and then select option `Submit all Bind Packages and Plan JCL` to submit the job. 6.
 7. If you are migrating from a version earlier than V3R4, recompile all user-developed exit routines.
 8. If you are migrating from a version earlier than V3R5, use the `Data Subset Extraction` module to verify the numeric values for the filter types **FILTER BY RANGE** and **FILTER BY LIST VALUE**. These filters are now padded with 31 digits instead of 18 digits as in previous production versions. To correct the padding, open and reapply the filter.



Note: For more information, see the section *Filter Types* in the *Work with Method - Selection class/Filter properties* chapter in the *Data Subset Extraction Guide*.

Distributed Systems Procedures

This chapter describes the installation media and procedures needed to successfully install Data Express. After installing, you need to install the latest updates, from the Micro Focus SupportLine web site. See the section `Updates` and `SupportLine` for more information.

Windows Installation

In the great majority of cases, to install you simply put the CD in your drive and follow the on-screen instructions which appear automatically after a few seconds. After installing, you can run the product from a button that appears at the end of the instructions and thereafter you can run it from your Windows **Start** menu.

Installation Media

Data Express is typically installed from a CD that contains:

- Windows client setup
- XDB Knowledge Base
- ODBC and Oracle Extension software

For z/OS, install the Windows client only. For Distributed Systems, install all components.



Note:

- Your license determines which modules you are authorized to install and use.
- You must have administrator privileges on the PC for which you are installing.

Software Setup

To begin your installation, follow the steps in the subsequent sections.

To use Data Express, you must request and specify the serial number. The serial number is the request key needed in order to activate all Data Express functions appropriate for your product license.



Note: The client-side serial number requested during your Data Express installation can only be obtained from Micro Focus SupportLine. You must provide the Micro Focus SupportLine representative the serial number specified on the CD box which is used as a request key in the **Request Key (Serial Number)** field.

To install Data Express:

1. Before installing, contact Micro Focus SupportLine to request a client-side serial number. In your request, provide the serial number specified on your CD box.



Note: This serial number you provide to Micro Focus SupportLine must match exactly the serial number printed on your CD box.

2. Run `Setup.exe` from the installation CD. The **InstallShield Wizard** appears.
3. Click **Next**, accept the license agreement, and then click **Next**.
4. In the **User Name** field, specify the appropriate name of the user or group of users who will use Data Express.
5. In the **Request Key (Serial Number)** field, overwrite the text and specify the serial number which you can find on the colored card in the CD case or on a sticker on the box.



Note: This value must be the same value you sent to Micro Focus SupportLine during your client-side serial number request.

6. In the **Response Key** field, enter the serial number you received from Micro Focus SupportLine.
7. Click **Next** to proceed with the install.
8. If you are installing Data Express for z/OS, you must choose the product as appropriate
9. Follow the prompts to complete your installation.

UNIX Installation

The Data Express ODBC and Oracle Extensions are installed from a `.tar` file that is provided as an electronic download in an e-mail message. Contained in the `.tar` file is the file `install.txt`, which provides further installation instructions.

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