



EXPRESS Data Manager™
Version 5.0.310
Release Notes

EXPRESS Data Manager



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1 Introduction

This release contains *EXPRESS Data Manager*[™] version 5.0.310.1 for Windows, which is a continuation of version 5.0.302.8.

EXPRESS Data Manager[™] version 5.0.310.1 is the first officially released of version 5.0.310. A change list of the subsequent updates of release 5.0.310 will be maintained in this document.

Before installing this version, please read the section about [Backwards Compatibility](#).

2 New Functionality

This section lists the new functionality introduced with *EXPRESS Data Manager*[™] version 5.0.310. In addition to this, a number of reported bugs have been corrected.

- Improved logging features for *EDMserver*[™].
- EDMexpressX profiling
- Automatic restart of *EDMapplicationServers*[™] upon abnormal termination.
- Extended character set for naming *EDMusers*[™], *EDMgroups*[™], *EDMrepositories*[™] and *EDMmodels*[™].
- Improved hash table handling.
- *EDMusers*[™] and *EDMgroups*[™] may be renamed.
- Improved *EDMserver*[™] tuning features.
- Improved *EDMexpressX*[™] string handling.
- New more powerful print function in EDMexpressX.
- *EDMexpressX* late binding declarations.
- *EDMexpressXCompiler*[™] projects.
- Variable aggregate bounds in *EDMvisualExpress*[™].
- Improved *EDMstepWriter*[™].
- Improved support for character encoding.

2.1 Improved logging features for *EDMserver*[™]

The *EDMserver*[™] may be configured to maintain a log of *EDMusers*[™] that access the *EDMdatabase*[™]. A server report file may logg all major *EDMserver*[™] events.

A GetServerFile utility is implemented to read the logged *EDMserver*[™] information from the *EDMserver* to the client.

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New EDMInterface API and EDMexpressX functions:

```
edmiGetServerFile(), edmiRemoteGetServerFile(), xpxGetServerFile().
```

2.2 EDMexpressX™ profiling

Statistics and metrics from execution of any *EDMexpressXmethod™* is collected and reported in the log file by *EDMvirtualMachine™*.

2.3 Automatic restart of EDMapplicationServers™ upon abnormal termination.

The EDMserver™ may be configured to restart its EDMapplicationServers™ if they are abnormally terminated.

2.4 Extended character set for naming EDMusers™, EDMgroups™, EDMrepositories™ and EDMmodels™.

In previous versions of *EXPRESS Data Manager™*, the available characters that could be used for naming *EDMusers™*, *EDMgroups™*, *EDMrepositories™* and *EDMmodels™* was restricted. *EXPRESS Data Manager™* now lets the user extend this set of characters with the system configuration parameter EDM_EXTENDED_NAME_CHARACTERS. E.g, this may be used to enable the use of e-mail addresses for naming *EDMusers™*.

2.5 Improved hash tables handling.

For improved performance when deleting instances from large populations, it is now possible to have *EXPRESS Data Manager™* create and maintain persistent hash tables. Many new *EDMexpressX™* functions and procedures are implemented.

New EDMexpressX functions and procedures:

```
xpfCreateInstanceHashTable(), xpxInsertInstanceInInstanceHashTable(),
xpxInsertInstancesInInstanceHashTable(), xpfIsAssociatedValue(),
xpxAddAssociatedValueToInstanceInInstanceHashTable(),
xpxInsertRoleOfInstanceInInstanceHashTable(),
xpxInsertIndexOfAggregateInInstanceHashTable(),
xpxInsertQualifiersInInstanceHashTablesWithRoles(),
xpxInsertQualifiersInInstanceHashTablesWithRoles(),
xpfGetInstanceInInstanceHashTable(), xpxDeleteInstanceHashTable(),
xpfIsInstancesInInstanceHashTable(), xpfGetHashedAttrInstancesEx(),
xpfGetAssociatedInstanceOfInstance(), xpfGetHashedAttrInstanceEx(),
xpfGetAssociatedValueOfInstanceInInstanceHashTable(),
xpxRemoveAssociatedValueFromInstanceInInstanceHashTable(),
xpxRemoveInstancesFromInstanceHashTable(),
xpxDefinePersistentAttrHashTableBNE(),
xpxGetPersistentAttrHashTableProperties()
```

2.6 EDMusers™ and EDMgroups™ may be renamed.

New EDMInterface API and EDMexpressX functions:

```
edmiRenameUser(), edmiRemoteRenameUser(), xpxRenameUser(),
edmiRenameGroup(), edmiRemoteRenameGroup(), xpxRenameGroup().
```

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2.7 Improved *EDMserver*[™] tuning features.

EDMApplicationServers[™] may now be given individual folders for holding temporary files. This enables distributing the disk read/write load between multiple disks on the *EDMserver*[™] host.

2.8 Improved *EDMexpressX*[™] string handling.

A number of new string operation functions and procedures are implemented in *EDMexpressX*. The concept *EDMLongString*[™] is introduced to improve the memory handling when concatenating of a great number of string elements into a single string.

New *EDMInterface* API and *EDMexpressX* functions:

```
xpfDefineLongString(), xpxAddToLongString(), xpfGetLongString(),
xpfGetLongStringLength(), xpxDeleteLongString(),
xpfAggregateToString(), xpfSplitStringToAggregate(), xpfTrimString(),
xpxTrimString(), xpfStringToUppercaseEx(), xpfStringToLowercaseEx(),
xpxFindStringPatternInModel(), xpxFindStringPatternInAttrHashTable(),
xpfSubstituteStringsInString().
```

2.9 New more powerful print function in *EDMexpressX*.

A function that transforms and prints any data value to a string using a “printf” operation

New *EDMexpressX* function: `xpfPrintfValue()`

2.10 *EDMexpressX* late binding declarations.

New *EDMexpressX*[™] functions now allows late binding statements in *EDMmethods*[™]

New *EDMexpressX* functions and procedures:

```
xpxDefineTemporaryVariables(), xpxDefineTemporaryVariablesEx(),
xpxValueAssignToTemporaryVariables(), xpfIfThenElseIfEx(),
xpxExpressionAssignToTemporaryVariables(), xpfIfThenElseIf(),
xpfGetTemporaryVariableValue()
```

2.11 *EDMexpressXCompiler*[™] projects.

EDM concept for handling (compiling and/or making) any *EDMexpressX* schema (LongForm) from any number of *EDMexpressX* source files (ShortForms).

New *EDMInterface*[™] API function: `edmiBuildExpressXlongForm()`

2.12 Variable aggregate bounds in *EDMvisualExpress*[™].

Aggregates bounds may now be specified by a variable.

2.13 Improved *EDMstepWriter*[™]

The STEP file string encoding may be specified. Legal string encoding codes are:

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- UTF_8
- ISO-8859-1
- ISO-8859-2
- ISO-8859-3
- ISO-8859-4
- ISO-8859-5
- ISO-8859-6
- ISO-8859-7
- ISO-8859-8
- ISO-8859-9
- ISO-LATIN-1 (Alias)
- ISO-LATIN-2 (Alias)

The UTF_8 character encoding is using the \X2\ and \X4\ string-encoding directive. All the ISO_8859_ character encoding codes are using the \PA\ , \PB\ ... to \PI\ string encoding directive.

New EDMInterface function: `edmiWriteStepFile2Ex()`

2.14 Improved character encoding

Internet Explorer rejects the "ISO-LATIN-1" and "ISO-LATIN-2" aliases. The notations are aliases for "ISO-8859-1" and "ISO-8859-2". Both notifications are now allowed. The character sets UTF-8 and ISO-8859-1 to ISO-8859-9 is now completely enabled.

3 Backward Compatibility

3.1 EDMdatabase™

EXPRESS Data Manager™ version 5.0.310 has a new *EDMdatabase™* version.

- If you need to upgrade your *EDMdatabase™* from release 5.0.302, you must first upgrade to update 5.0.302.10 and then dump your *EDMdatabase™* to disk.
- If you are upgrading your *EDMdatabase™* from release 5.0.301, you must first upgrade to update 5.0.301.6 and then dump your *EDMdatabase™* to disk.

To dump an *EDMdatabase™* to a folder on your file system, use the *EDMSupervisor™* command `Database>Dump`. The name of the dump directory will be generated from the parameters given in the Dump command:

<Dump directory path>\EDMdump_<Database>_<Dump name>

When the *EXPRESS Data Manager™* version 5.0.310 is installed the database dump can be restored with the *EDMSupervisor™* command `Database>Restore`.

NOTE: If you are upgrading your EDMdatabase™ from release 5.0.100 or older, you must manually export your populations and schemata to STEP and EXPRESS files on your disk. Eventually, the files must be manually read back into a new EDMdatabase created by release 5.0.310.

3.2 *EDMvisualExpress*[™]

The new variable aggregate bounds feature may render VEX files of older releases incompatible with release 5.0.310. Contact support@jotne.com for instruction on how to upgrade your VEX files.

4 *EDMdatabase*[™] configuration

EXPRESS Data Manager[™] may be build-time configured with different *EDMdatabase*[™] configurations. These configurations are mutually incompatible and available on request. The *EDMdatabase*[™] configuration of the standard *EXPRESS Data Manager*[™] release 5.0.310 is:

- Max model size: 4.2 Gbytes
- Max number of active models in the *EDMdatabase*[™] is 128.
- Max number of instances in the *EDMdatabase*[™] is 33.6 millions.

All versions of *EXPRESS Data Manager*[™] are configured for holding a predefined number of active models. This is a fixed property for a given version of *EXPRESS Data Manager*[™]. The following configurations may be generated on request:

Active Models	Instances per model	Minimum EDM_DB_BLOCK_SIZE	
		32 bit System	64 bit System
2048	2.1 million	1024	1024
1024	4.2 million	1024	2048
512	8.4 million	1024	2048
256	16.8 million	1024	2048
128	33.6 million	2048	4096
64	67.2 million	2048	4096
32	134.6 million	2048	4096

EXPRESS Data Manager[™] uses a configurable *EDMdatabase*[™] block size. This is specified with the configuration parameter **EDM_DB_BLOCK_SIZE** and must be set before the *EDMdatabase*[™] is created. Changing this configuration parameter requires a complete Dump/Restore of the *EDMdatabase*[™] populations and schemata. **EDM_DB_BLOCK_SIZE** has the following legal values in bytes: 1024, 2048, 4096, 8192 and 16384.

5 System availability

EXPRESS Data Manager[™] version 5.0.310 is only available on WINDOWS platforms.

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6 Documentation

Ref.	Description	Rev.
[1]	Documentation File: <dir>:\edm\edm5.00.0310.08\help\index.html	5.0.310
[2]	EDMassist http://edmserver23.jotne.com/EDMassist/WebHelp/EDMAssist.htm	5.0.310
[3]	EDMdesktop(ifc) user guide (C / Java) File: <i>EDMdesktopIFC_UserGuide_C.pdf</i> File: <i>EDMdesktopIFC_UserGuide_Java.pdf</i>	5.0.302
[4]	EDMserver install guide File: <i>EDMserver_InstallGuide.pdf</i>	5.0.310
[5]	EDMwebServices User Guide File: <i>EDMwebServices User Guide.pdf</i>	5.0.310

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7 Updates of Release 5.0.310

7.1 Update 5.0.310.03

A workaround for a problem when installing *EXPRESS Data Manger™* licenses using Hyper-V on MS Server 2008 64B has been implemented. If you encounter this problem, please contact support@jotne.com for assistance to install your license.

7.2 Update 5.0.310.04

Improve / correct the handling of various EDM_DB_BLOCK_SIZE values in EDM. These values will vary between a 32-bit and 64-bit system, and the actual table with legal values are given in chapter 4.

7.3 Update 5.0.310.05

Fix for bug in XMLwriter.