

Natural Business Services

Release Notes

Version 8.2.2

November 2023

This document applies to Natural Business Services Version 8.2.2 and all subsequent releases.

Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

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Document ID: NBS-NNBSRELNOTES-822-20231119

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Preface

These Release Notes summarize the new features, changes and enhancements that are provided with Natural Business Services Version 8.2. The following topics are covered:

[What's New in Version 8.2.1?](#)

[What's New in Version 8.2.2?](#)

Update Information for Version 8.2.2, January 2016

The section *What's New in Version 8.2.2?* was changed. The section *Important Notices* has been added there to provide information on the reestablishment of a feature that had been removed in Natural Business Services Version 8.2.1. Other than previously announced, L@ fields for DB2 are again included in the generated code.

Update Information for Version 8.2.2, December 2016

The section *What's New in Version 8.2.2?* was changed. The section *Important Notices* has been enhanced to provide information on the required connection of Predict file descriptions and the generated Natural DDMs.

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Document Conventions

Convention	Description
Bold	Identifies elements on a screen.
Monospace font	Identifies service names and locations in the format <i>folder.subfolder.service</i> , APIs, Java classes, methods, properties.
<i>Italic</i>	Identifies: Variables for which you must supply values specific to your own situation or environment. New terms the first time they occur in the text. References to other documentation sources.
Monospace font	Identifies: Text you must type in. Messages displayed by the system. Program code.
{ }	Indicates a set of choices from which you must choose one. Type only the information inside the curly braces. Do not type the { } symbols.
	Separates two mutually exclusive choices in a syntax line. Type one of these choices. Do not type the symbol.
[]	Indicates one or more options. Type only the information inside the square brackets. Do not type the [] symbols.
...	Indicates that you can type multiple options of the same type. Type only the information. Do not type the ellipsis (...).

Online Information and Support

Product Documentation

You can find the product documentation on our documentation website at <https://documentation.softwareag.com>.

In addition, you can also access the cloud product documentation via <https://www.software-ag.cloud>. Navigate to the desired product and then, depending on your solution, go to “Developer Center”, “User Center” or “Documentation”.

Product Training

You can find helpful product training material on our Learning Portal at <https://knowledge.softwareag.com>.

Tech Community

You can collaborate with Software AG experts on our Tech Community website at <https://tech-community.softwareag.com>. From here you can, for example:

- Browse through our vast knowledge base.
- Ask questions and find answers in our discussion forums.
- Get the latest Software AG news and announcements.
- Explore our communities.
- Go to our public GitHub and Docker repositories at <https://github.com/softwareag> and <https://hub.docker.com/publishers/softwareag> and discover additional Software AG resources.

Product Support

Support for Software AG products is provided to licensed customers via our Empower Portal at <https://empower.softwareag.com>. Many services on this portal require that you have an account. If you do not yet have one, you can request it at <https://empower.softwareag.com/register>. Once you have an account, you can, for example:

- Download products, updates and fixes.
- Search the Knowledge Center for technical information and tips.
- Subscribe to early warnings and critical alerts.
- Open and update support incidents.
- Add product feature requests.

Data Protection

Software AG products provide functionality with respect to processing of personal data according to the EU General Data Protection Regulation (GDPR). Where applicable, appropriate steps are documented in the respective administration documentation.

2 What's New in Version 8.2.1?

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Prerequisites

See the following topics in *Installation on Mainframes*:

- *Prerequisites* for information on software requirements for Natural Business Services and Natural Construct on mainframe platforms.
- *Operating Environments* for information on the operating environments for Natural Business Services and Natural Construct on mainframe platforms.

Important Notices

This section contains important information you should read before installing this version of Natural Business Services. The following topics are covered:

- [Client Support for Natural Business Services](#)
- [Changes to the Object-Browse-Subp Model](#)
- [L@ Fields for DB2 No Longer Included in the Generated Code](#)
- [Changes to the Upgrade Installation Procedure](#)
- [Changes to the CNUELNX Subprogram](#)

Client Support for Natural Business Services

The Visual Studio, Natural for Windows, and stand-alone Eclipse clients (plug-ins and add-ons) are no longer supported in this version of Natural Business Services. The only supported client is NaturalONE, which uses the RPC server method of calling business services. It is strongly recommended that you migrate to this client for future development. For further information, see the sections *Business Services* and *Code Generation* in the NaturalONE documentation.



Note: Although you can continue to use existing generated/created applications against the DISPATCH server, you will not be able to maintain these applications using a Version 8.2 server installation.

Changes to the Object-Browse-Subp Model

The CDRANGE subprogram, which is used by generated object-browse subprograms to calculate the minimum and maximum values for queries that contain a range, is now obsolete and has been replaced by the CDRANGE2 subprogram. CDRANGE2 is identical to CDRANGE, except it can handle longer lengths in the key fields. Both CDRANGE and CDRANGE2 will be shipped with Natural Construct Version 5.3 and Version 8.2, which will allow existing applications and object-browse subprograms generated in Natural Construct Version 5.3 server environments to use CDRANGE and object-browse subprograms generated in NaturalONE Version 8.2 and Natural Construct Version 8.2 server environments to use CDRANGE2.

L@ Fields for DB2 No Longer Included in the Generated Code

If you previously used Natural Business Services or Natural Construct to generate code against DB2 tables that were defined with the use of the NATL option in Predict, you may have seen L@ fields generated in the views and PDAs used to represent these files. Beginning with this version, the L@ fields will no longer be included in the generated code.

Changes to the Upgrade Installation Procedure

When installing this version of Natural Business Services (NBS) over an existing version in main-frame environments, the INT* modules will now automatically invoke the CVSETVR utility to set the product version number. Previous versions of NBS required you to do this manually.

Changes to the CNUELNX Subprogram

To support Natural field/variable sizes introduced in Natural Version 4.2, the CNUELNX subprogram has been changed to accommodate the new sizes and changes to the Natural editors. In addition, the word "Dynamic" can now be used in a length field. Further changes were made in Natural Construct Version 8.2 to support another size change. In addition, the new Object-Maint-Enhanced-Subp model has been introduced to support dynamic fields in the data PDA. This new functionality will allow longer Alpha fields to be represented in the PDA as DYNAMIC, so only relevant data will be sent across the network. For more information, see [Object-Maint-Enhanced-Subp Model Now Available](#).

Natural Business Services

Natural Business Services Version 8.2.1 contains several error corrections. New functionality is not provided.

Natural Construct

This section describes the new features and enhancements in Natural Construct Version 8.2.1.

Object-Maint-Enhanced-Subp Model Now Available

The Object-Maint-Enhanced-Subp model has been included in this version of Natural Business Services to handle fields that have a varying amount of data. Using this model, the following options are now available:

- Generate large fields into the object PDA as dynamic fields
- Maintain large object (LO) fields by the generated subprogram



Notes:

1. This model is only available in a Version 8.2 or higher server environment.
2. For information about this model, see *Using the Object-Maint Models* in *Natural Construct Object Models*.

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Important Notices

This section contains important information you should read before installing this version of Natural Business Services. The following topics are covered:

- [L@ Fields for DB2 Included in the Generated Code](#)
- [Predict File Descriptions and Generated Natural DDMs](#)

L@ Fields for DB2 Included in the Generated Code

If you previously used Natural Business Services or Natural Construct to generate code against DB2 tables that were defined with the use of the NATL option in Predict, you may have seen L@ fields generated in the views and PDAs used to represent these files. This feature had been removed with Natural Business Services Version 8.2.1 and has been reestablished with Natural Business Services Version 8.2.2 (Cumulative Fix 03).

Predict File Descriptions and Generated Natural DDMs

When using Predict and Natural Business Services, please ensure that the Predict file descriptions and the generated Natural DDMs are connected. Otherwise, certain features of the most recent database versions supported by Natural Business Services may be represented differently in the generated Natural DDM.

Natural Business Services

This section describes the new features and enhancements in Natural Business Services Version 8.2.2.

Installation on Linux

Natural Business Services, including Natural Construct, can now be installed on Linux using the Software AG Installer. See *Installation on Linux* for detailed information. This also includes the system requirements.

The functionality that was previously only available with Natural Business Services 8.2.1 for mainframes is now also supported for Linux.

Natural Construct

This section describes the new features and enhancements in Natural Construct Version 8.2.2. The following topics are covered:

- [Object-Browse-Subp Model Now Supports X-Arrays](#)
- [New Option for Retrieving the Time Value from DB2](#)

Object-Browse-Subp Model Now Supports X-Arrays

The Object-Browse-Subp model now supports the generation of X-arrays in the object (row) PDA with (1:*) declarations instead of (1:V) for top-level rows. For information, see *Parameters for the Object-Browse-Subp Model* in *Natural Construct Object Models*.

New Option for Retrieving the Time Value from DB2

A new option, Enhanced DB2 timestamp, is now available for the Object-Maint-Subp Model model and the Object-Maint-Enhanced-Subp model. You can use it to retrieve the time value from DB2. A "SELECT CURRENT TIMESTAMP" statement will be generated to obtain a precise timestamp value. Otherwise, the time value is retrieved from Natural's time system variable. For information, see *Parameters for the Object-Maint-Subp Model* and *Parameters for the Object-Maint-Enhanced-Subp Model* in *Natural Construct Object Models*.

