software AG

Natural

Release Notes for Natural Version 9.1 for UNIX

Version 9.1.1

October 2018

ADABAS & NATURAL

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1 Release Notes for Natural Version 9.1 for UNIX

These Release Notes summarize the new features, changes and enhancements that are provided with Natural Version 9.1. The following topics are covered:

Release Information for Natural Version 9.1.1

For information on the supported operating system platforms and other requirements for the current version of Natural, see *System Requirements* in the *Installation* documentation.

2   About this Documentation

Document Conventions

Convention	Description
Bold	Identifies elements on a screen.
`Monospace font`	Identifies service names and locations in the format *folder.subfolder.service*, APIs, Java classes, methods, properties.
Italic	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 (...).

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3 Release Information for Natural Version 9.1.1

Installation

System Requirements

The system requirements for the current version of Natural are now listed in the *Installation* documentation.

Please also refer to the system requirements for specific information concerning Oracle Solaris 11.3.

Compilers Used to Build Natural

With Natural for UNIX Version 9.1.1, different compiler versions were used to build and test Natural. For detailed information, see *Compilers Used to Build Natural* in the *Installation* documentation.

Migrating Applications to Version 9.1

Applications that were created with Natural for UNIX Version 3.1 and above can be executed with Version 9.1.

New Features

Natural in a Docker Container

As of Natural 9.1.1, it is possible to execute Natural in a Docker container. For detailed information see *Building a Natural Docker Image* in the *Installation* documentation.

System Variables

The following system variables are now available:

Variable	Description
*EDITOR	The new *EDITOR system variable returns information on whether the Natual program, data area and map editors are enabled (activated).

Changes and Enhancements

AT BREAK Statement

The behavior of an ESCAPE in an AT BREAK statement has been changed due to compatibility reasons with Natural for Mainframe.

When an ESCAPE ROUTINE or ESCAPE BOTTOM is processed in an AT BREAK statement, the AT BREAK processing is stopped. If there are multiple AT BREAK blocks in the processing loop, no further AT BREAK statement is executed for the current processing loop.

When the processing loop is terminated and an ESCAPE ROUTINE or ESCAPE BOTTOM is processed in the final AT BREAK processing, the AT BREAK processing is stopped and no further AT BREAK block is executed.

Refer to AT BREAK in the *Statements* documentation for further details.

EXAMINE Statement

The syntax of the EXAMINE statement has been enhanced with the following effects:

- An EXAMINE statement with a multi-character wild character (* or %) at the beginning or at the end of the search-pattern, matches now only to the next delimiter (if delimiters are used). This can lead to a different result.

- In general, a mirrored EXAMINE now delivers the mirrored result. That means, if you swap the characters (first to last, etc.) of the inspected field and of the search-pattern, and change the direction from FORWARD to BACKWARD, the resulting field contains the swapped value of the non-mirrored EXAMINE.

Refer to EXAMINE in the *Statements* documentation for further details.

ETID Parameter

The behavior of the `ETID` parameter has been changed. If the ETID is not specified, neither in NATPARM nor dynamically, Natural uses the setting of *INIT-USER to fill the ETID. This also applies now, if Natural Security is used.

If you want to use the ETID from Natural Security, you have to set the `ETID` parameter to OFF.

Refer to *ETID - Adabas User Identification* in the *Parameter Reference* documentation for further details.

CATALL Command

The option to automatically renumber the source-code lines of sources that were saved or stowed is now deactivated by default. If you want to use automatic renumbering, you now have to activate this option. Refer to `CATALL` in the *System Commands* documentation for further details.

Statistical Information in NATBPMON

When using the Buffer Pool Monitor (`NATBPMON`), additional statistics (hot fix level, read-only and swap status) are displayed when issuing the `STATUS` command in NATBPMON. Refer to *Statistical Information About the Buffer Pool* in the *Operations* documentation for details.

Profiler Utility

Summary of Executed Source Lines
    The Natural Profiler utility now provides the option to generate a summary of source lines executed in a Natural object. The summary shows how many events occurred during execution of a source line and the CPU and elapsed time spent executing the line.

    For more information, see *Line Summary* in the section *Using the Profiler Utility in Batch Mode*.

Natural Development Server

Natural Development Server is released with the same version number as Natural for UNIX.

Natural RPC (Remote Procedure Call)

Natural RPC (Remote Procedure Call) is available as a separate subcomponent of Natural. It has its own version number. This measure takes into account that Natural RPC is a cross-platform component and makes it possible to provide new Natural RPC versions independent of new Natural versions for the various platforms supported.

With Natural Version 9.1.1, an enhanced Natural RPC Version 9.1.1 is delivered. This version contains error corrections.In addition, the following new functionality is provided.

- SYSRPC Utility

SYSRPC Utility

Service Directory Maintenance: Cursor Now Placed at Inserted Lines
  The I insert line command of the **Service Directory Maintenance** now places the cursor at the position where new items can be entered for a selected node.

  For more information, see *Line Commands* in the section *Commands for Service Directory Maintenance*

Natural Security

The following enhancements are provided with Natural Security Version 9.1.1:

- Administrator Services
- Unlocking Locked Users
- Password Phrases
- Password Rules
- Passing Natural User ID to Adabas
- Authentication Options

- Application Programming Interfaces (APIs)

Administrator Services

The menu structure of Administrator Services has been revised slightly. In particular, **User Preset Values** and **Library Preset Values** are now two separate menu items.

Unlocking Locked Users

User Preset Values provide a new option **Automatically unlock users after** *nn* **hours,** *nn* **minutes**. If you use the Lock User Option, you had to unlock every locked user manually. With this option, you can specify a time interval after which locked users are unlocked automatically: A locked user ID will then be unlocked *nn* hours and *nn* minutes after which the locking occurred.

Password Phrases

In addition to "regular" passwords of up to 8 characters, Natural Security now also supports the use of *password phrases*, that is, passwords which are longer than 8 characters. The use of password phrases is activated by the new option **Password phrases active** in the **User Preset Values** section of *Administrator Services*.

Several **Password Phrase Options** are available to control the use password phrases.

In conjunction with password phrases, the new logon-related user exit `LOGONEX0` is used instead of `LOGONEX1`; see *Logon-Related User Exits*.

See also *Application Programming Interfaces (APIs)* below.

Password Rules

In the **Password Options** section of **User Preset Values**, the option **Minimum no. of non-alpha-betical characters** has been replaced by the two new options **Minimum no. of numeric characters** and **Minimum no. of special characters**.

Passing Natural User ID to Adabas

A new option **Pass Natural User ID (*USER) to Adabas** is available in the **Libary Preset Values** section of *Administrator Services*. It determines which user ID is passed to Adabas to be used as Adabas login ID: the value of the Natural system variable *USER or that of the Natural system variable *INIT-USER.

Authentication Options

User authentication via an LDAP server is now also possible with AUTO=ON: If technical user support is defined and the Natural session is started with the Natural profile parameter AUTO=ON, the user ID is LDAP-verified.

The following components of the LDAP security profile have been changed:

- **LDAP Options 1:** The field **Log level**, which could be set to **0** (logging not active) and **1** (logging active), now provides a value range of **0 to 6** for selective logging of various items.
- **LDAP Options 2:** The **Technical user support** fields **Credential** and **Key value** have been renamed to **Path to output file** and **Path to key file** respectively.
- **LDAP Options 3:** The field **Default separator** has been removed.

Application Programming Interfaces (APIs)

For the handling of password phrases, two new APIs are available:

- NSC--PH can be used to check password phrases.
- NSC--PHS can be used to check and change password phrases.

The existing API NSC-US has been enhanced: The parameter PPARM4 can be used to set a password phrase in a user security profile (see example program PGMUS001).

To set the user ID and password phrase for an Natural RPC service request, you use the new API USR9171 provided in the library SYSEXT.

Removed Features

The following changes apply with Natural Version 9.1:

Disabled Editors

The Natural program, data area and map editor have been disabled in your environment by default. For more information, see *Disabled Natural Editors* in the *Editors* documentation.