

Installing and Setting up Natural under UNIX

This document describes how to setup and install Natural 5.1.1 on a UNIX platform. The following topics are covered:

- Product Requirements
 - The Natural Distribution Kit
 - Before You Start
 - Installing Natural under UNIX
 - Setting Up the Entire System Server Interface
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Product Requirements

This section covers the following topics:

- Required Memory Space
- Disk Space
- Related Software AG Products

Required Memory Space

The memory space required by Natural largely depends on the number of users.

The memory space per user is determined by the settings in the NATPARM parameter module, especially by the values of profile parameters such as USIZE and SSIZE.

In addition to the user-specific memory, memory is required for the buffer pool, which is shared among all users.

Disk Space

Approximately 180 MB of hard-disk space is required for Natural.

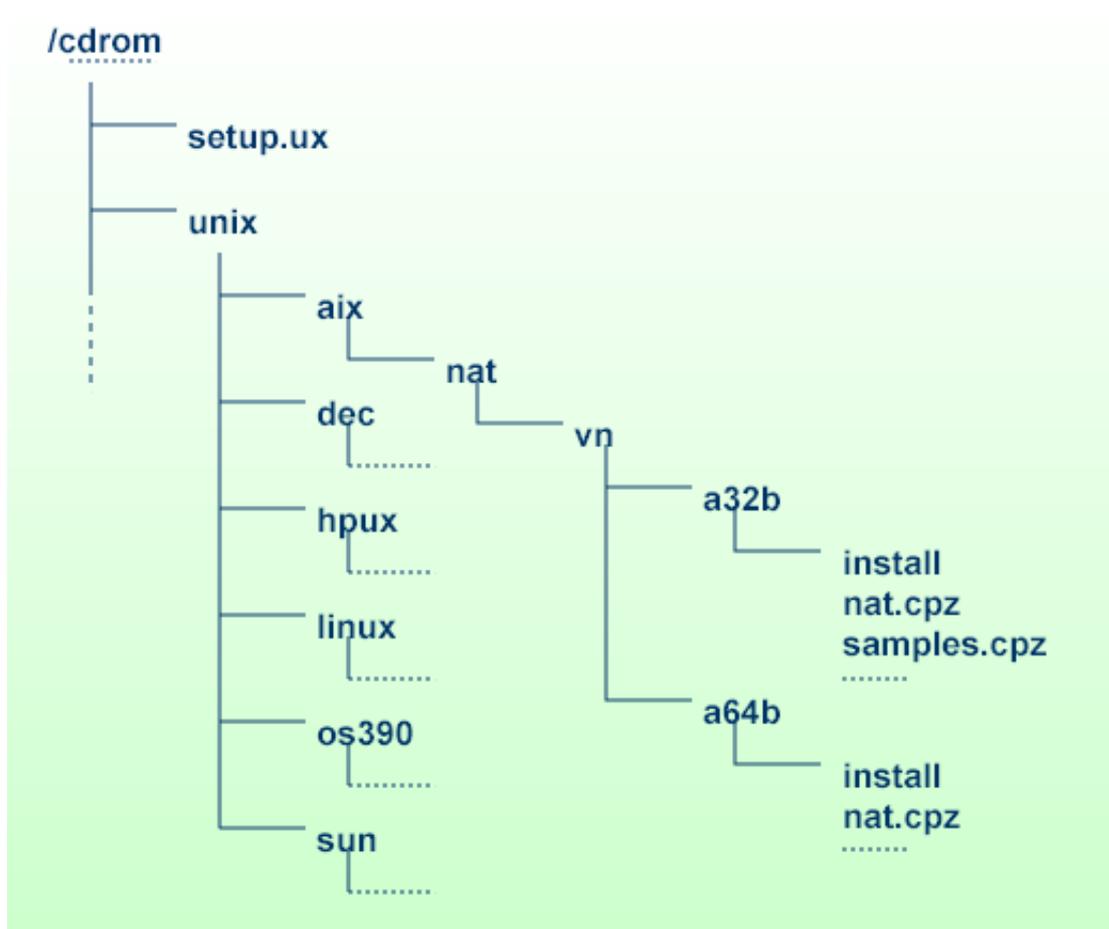
Related Software AG Products

Natural 5.1.1 requires:

- Adabas 3.1.1
- Entire Access 4.2.1 or 4.1.1 to access SQL databases.
- EntireX 5.3.1 or 6.1.1 when using the Natural RPC feature or the Natural Web Interface via RPC
- Entire Net-Work 2.1.1 UNIX to access remote Adabas database systems
- Tamino 2.2.1 or 2.3.1 and 3.1.1 when using the Natural Tamino examples
- HTTP server, like Apache, IIS or Netscape when using the Natural Web Interface

The Natural Distribution Kit

The Natural distribution kit on CD-ROM contains the installation files for various UNIX platforms as well as for Windows and other platforms. An example of the directory hierarchy on the CD-ROM is shown below. Note: Directory level A32B/A64B applies only to AIX, HP-UX and Solaris.



Files for UNIX platforms are provided on CD. Please note that the License File is not contained on this CD. It must be obtained from Software AG.

Before You Start

This section contains important information on the necessary activities before installing and setting up Natural on a UNIX platform.

Please note the following before you start the Natural installation:

- Software AG recommends some common steps for the installation of Software AG products under UNIX. See Installing and Setting Up Software AG Products under UNIX for a detailed description.
- Some installation steps require super-user (root) permissions. The installation offers a choice between the **su** and **sudo** commands and asks for the corresponding password required to become super-user.
- Before you start the installation, backup your current product version.
- The directory on the disk into which the Natural distribution files are installed is identified by the environment variable **SAG** (which can be set to an appropriate value in advance).
- If a previous version of Natural is already installed, the configuration settings are evaluated and may be used in the update installation. Note that the Software AG cross-product component **btj** required by Natural is installed under **\$\$SAG/common** and may upgrade previous versions of this component.
- During the installation you need a valid Natural license file.
- Ensure that prerequisite software is installed.

Installing Natural under UNIX

This section describes step-by-step how to setup and install Natural under the UNIX operating system. The installation steps to be taken depend on whether you are installing Natural for the first time, or upgrading an existing Natural version. You will be guided accordingly during the installation process.

The installation can be performed in two installation modes, either in graphical mode or in character mode.

See the following list for an overview of the necessary steps:

- Step 1: Mount Your CD-ROM Drive
- Step 2: Choose the Installation Mode
- Step 3: Start the Installation Process
- Step 4: Enter A Valid CD-ROM Directory
- Step 5: Enter \$SAG Environment Variable
- Step 6: Select Products to Install
- Step 7: Accept License Agreement
- Step 8: Specify License File Location
- Step 9: Select Natural Packages to Install
- Step 10: Confirm Your Installation Settings
- Step 11: Select Installation Type
- Step 11a: NATDIR / NATVERS Settings (Update Installation Only)
- Step 12: Review Configuration Settings for NATURAL.INI
- Step 12a: Parameter Module Template (Update Installation Only)
- Step 13: Review Environment Settings for FNAT / FUSER
- Step 14: Set User Database Parameter
- Step 15: Loading Libraries
- Step 16: Natural Buffer Pool
- Step 17: Root Authentication
- Step 18: Additional Packages
- Step 19: Relink Natural
- Step 20: SAG Environment File
- Step 21: Finish Installation
- Step 22: Execute the SAG Environment File

Step 1: Mount Your CD-ROM Drive

If your CD-ROM drive has not yet been mounted, mount it now as described in the section Installing the Contents of the CD-ROM to Disk of the steps common to all Software AG products.

When the installation is started, the setup procedure will check the hardware platform and operating system version and then start the appropriate installation program INSTALL.

Step 2: Choose Installation Mode

The installation procedure examines the environment variable DISPLAY to determine whether to run in graphical or character mode.

To use **graphical mode**, the environment variable DISPLAY must be set. If it is not yet set in your environment and you want to use graphical mode, set it using the following command:

```
DISPLAY="<your_machine_name>:0"  
export DISPLAY
```

Character mode will be used automatically if the environment variable `DISPLAY` is not set. If `DISPLAY` has been set in your environment but you want to use character mode, you can disable it using the `-nw` option when you start the installation.

At the end of an installation process, in either mode, a **batch script** is generated and written to the end of the installation log. It lists the parameters specified for that particular installation.

Example:

```
# ----- <Start of generated batch script> -----
# -- <Adapt the following lines until end of generated> --
# ----- < batch script to your needs > -----
#!/bin/sh
# You should replace SECRET by the actual password
# or (even better) call this script with superuser privileges.
#
SAG="/usr/SAG"; export SAG
/bin/sh /cdrom/setup.ux -batch \
  -sagenv /usr/SAG/sagenv.new \
  -installType customized \
  -user sag \
  -password SECRET \
  -authcmd sudo \
  -dbident 022 \
  -packages "
  Nucleus & utilities : off
  AdalnK : on
    Optimized Version of AdalnK : on
    Examples : on
    DBA Workbench : on"
# ----- <End of generated batch script> -----
```

You can use the **-help** option to display a list of all supported parameters.

Step 3: Start the Installation Process

To perform this step, you must be either the user `sag` or a member of the group `sag` to which the administrator and all users of Software AG products are assigned. Do not perform this step as the user `root`.

Start the installation procedure from a **writable** working directory. We recommend `$SAG/INSTALL`. Enter the command:

```
sh <mount_dir>/setup.ux
```

where `<mount_dir>` is the starting directory on your product CD-ROM. Upper / lower case usage is possible.

The setup program is started and guides you through the installation. During installation you have to provide the license key.

Note:

The following descriptions of installation steps assume that the graphical installation mode is used. The step sequence is the same in character mode.

Step 4: Enter A Valid CD-ROM Directory

In this screen you have to confirm the path of your CD-ROM drive.

By default, the path of the mounted CD-ROM drive is displayed. You can enter a different path or use the Browse button to change the path.

Click Next to proceed.

Step 5: Enter \$\$SAG Environment Variable

In this screen, you can change the value of the \$\$SAG environment variable, which is the path name of the directory tree where all Software AG products are installed.

By default, the current \$\$SAG variable is displayed. You can enter a different path or use the Browse button to change the path.

Click Next to proceed.

Step 6: Select Products to Install

In this screen, you decide whether to install both Natural and Natural Security, or only one of them alone. Check the relevant boxes.

If you choose to install Natural without Natural Security, the installation program finishes with Step 21: Finish Installation. You can install Natural Security at any later occasion.

If you choose to install Natural Security, Natural must be installed. Please continue reading the Natural Security installation description.

If you choose to install both products at a time, the installation process leads you first through the installation of Natural and, after Natural has been installed, successfully, through the installation of Natural Security.

Click Next to proceed.

Step 7: Accept License Agreement

In this screen, the license agreement is displayed. You must accept it to proceed with the installation.

Note:

If you run the installation procedure in character mode, at each command prompt, you must type in the exact wording (for example: "accept" for "accept", not just "y" or the ENTER key).

Step 8: Specify License File Location

In this screen, you specify the directory and name of your license file. Enter the path where your license file is located or use the Browse button to change the path, and select the `<product_code>.xml` file. If no common Software AG environment exists yet, `<your current directory>/<product_code>.xml` is displayed.

If you click on the View button, the content of your license file will be displayed in a separate screen. Click OK or Quit to go back to the license file screen.

Click Next to proceed.

Step 9: Select Natural Packages to Install

In this screen, you can choose additional packages to be installed.

For Natural, you can decide whether to install the Natural example files in addition to the Natural program files. Click on the Details button to do so. Choose the components you want to install and return to the original window using the Continue button.

Click Next to proceed.

Step 10: Confirm Your Installation Settings

In this screen, the selected features are displayed. Use the scroll bars to display the entire list. If the common Software AG components are not installed in your environment, they will automatically be installed now.

To review or change your settings, click on the Back button.

Click Next to begin copying files. A screen will be displayed informing you about the extracted files. Click Next to continue.

Step 11: Select Installation Type

In this screen, you specify whether you are installing Natural for the first time, or updating an older Natural version already installed on your machine.

If you are installing Natural for the first time, proceed with Step 12: Review the Configuration Settings for NATURAL.INI. If you are updating Natural, perform Step 11a: NATDIR / NATVERS Settings.

Step 11a: NATDIR / NATVERS Settings - Update Installation Only

If you are updating an existing Natural version, confirm or modify the settings displayed in this screen.

Step 12: Review the Configuration Settings for NATURAL.INI

In these screens, you can review or change your configuration settings which will be stored in your NATURAL.INI file. The buttons displaying "..." can be used to browse to the relevant file location.

Click Next to start the initialization. If you are installing Natural for the first time, proceed with Step 13: Review the Environment Settings for FNAT / FUSER. If you are updating Natural, perform Step 12a: Parameter Module Template.

Step 12a: Parameter Module Template - Update Installation Only

If you are updating an existing Natural version, select the NATPARM module you want to use as a template. The FNAT and FUSER values are read from this template. The parameter module you selected will not be modified.

Step 13: Review the Environment Settings for FNAT / FUSER

Adapt the values displayed in this screen to your Natural environment. Enter an FNAT system file of your Natural Version 5. The buttons displaying "..." can be used to browse to the relevant file location.

Click Next to define the UDB parameter.

Step 14: Set User Database Parameter

Specify the UDB parameter you want to use for your current Natural environment.

If you are updating an existing Natural version, the current UDB parameter is displayed.

Click Next to start loading the Natural libraries into FNAT.

Step 15: Loading Libraries

In this screen, the loading process is shown. The progress of the process is indicated by a bar with a percentage scale.

Wait for the process to finish, then click Next to proceed.

Step 16: Natural Buffer Pool

In this screen, you can choose to copy the sagnatbp file to your system directory. This is necessary if you want to invoke the Natural buffer pool during system startup. For details, see [Activating the Natural Buffer Pool](#).

Click Next to proceed.

Step 17: Root Authentication

Enter either the root password or your own password, if the sudo command is available and you are an authorized sudo user. Some of the installation steps must be performed as super-user, for example when copying the buffer pool start-up script to the init.d system directory.

Click Next to proceed.

If you have chosen the default package in Step 9: Select Natural Packages to Install, proceed with Step 21: Finish Installation. If you have chosen additional packages, first perform the relevant steps as described in Step 18: Additional Packages.

Step 18: Additional Packages

Natural Command Processor

If you specified Natural Command Processor in Step 9: Select Natural Packages to Install, you will be asked if you want to create a database file for the Natural Command Processor. A dialog is displayed.

If you choose No, you will be passed to the screen relevant for the next package, if one was selected.

If you choose Yes, specify your Adabas environment settings, then click Next and specify the DBID and FNR for the Natural Command Processor FDT. Click Next again.

Entire Screen Builder

The installation program loads all libraries necessary for Entire Screen Builder. If you specified Entire Screen Builder in Step 9, continue with Step 19: Relink Natural.

Step 19: Relink Natural

If one of the packages you selected in Step 9: Select Natural Packages to Install requires relinking, a screen is displayed where you can specify the relevant parameters.

- For Adabas choose between dynamic and static binding.
- For SQL enter the SQL database you want to use.
- Select the check boxes if you want to use Entire DB or SYNCSORT.

Click Next to display the output of this relinking process. Please review the results and Click Next.

Step 20: SAG Environment File

This step is necessary only if you chose to install Natural without Natural Security. If you are installing both products, this step will be performed after the successful installation of Natural Security.

Select the products and paths which will be written to the `sagenv.new` file and click Next.

Step 21: Finish Natural Installation

This screen informs you that the installation has finished successfully. You are recommended to view the README file for further information. If you do not want to display the file, remove the selection.

Click Finish.

If you chose to install both Natural and Natural Security, the installation program will now continue to guide you through the installation of Natural Security. Please continue reading with Step 7: Accept License Agreement in the Natural Security installation section.

Step 22: Execute the SAG Environment File

It is necessary to execute the `sagenv.new` file after exiting this installation program to set the environment variables NATDIR, NATVERS and PATH. Check these settings and insert them into your profile (for example, `.profile`).

Once the installation has been successfully completed, you can remove the working directory and all of its contents.

For further information on the packages you may have selected, see the documentation listed below.

- Natural Command Processor
- Natural Web Interface
- Natural Debugger

For Entire Screen Builder, please see the relevant documentation.

Setting Up the Entire System Server Interface

The Entire System Server Interface (ESX) is required if the product Entire System Server (ESY) is to be used. The Entire System Server Interface is part of Natural Version 5.1.1 and no extra installation is needed.

Additionally, Natural Version 5.1.1 provides the libraries SYSNPE and SYSNPR.

SYSNPE is the Entire System Server online tutorial as starting help for Entire System Server users. For more information about Entire System Server, see Entire System Server Overview.

The library SYSNPR contains the utility CHANGEDB which is used to change the database ID of the Entire System Server DDMs.

This section covers the following topics:

- Prerequisites
- Activation

Prerequisites

The Entire System Server Interface provides access to Entire System Server on OS/390, VSE/ESA and BS2000/OSD via Entire Net-Work. For full support of the Entire System Server Interface, WCP 581 or above is required on the mainframe platforms.

Activation

The Entire System Server Interface is not active if you use the standard Natural configuration settings. The value of the Entire System Server Interface database (Natural profile parameter ESXDB) is set to 0 by default. To use the Entire System Server Interface you need to run the Natural Configuration Utility and must set the value of the parameter ESXDB to 148. The parameter can be found in the Natural Configuration Utility > Natural Parameter Files > Product Configuration > Entire System Server.

ESXDB specifies the database ID used for the DDMs of Entire System Server. This DBID does not specify the target DBID of Entire System Server requests but tells Natural which DBID is used for the catalogued Entire System Server DDMs. The effective Entire System Server target DBID will be specified with the NODE field which is part of all Entire System Server DDMs.

Please change the value of ESXDB to 148 to run Natural with Entire System Server Interface support. All Entire System Server DDMs are catalogued with DBID 148.

After starting Natural again, you may access Entire System Server nodes running on the mainframes via Entire Net-Work.

Currently, the customization of Entire System Server Interface supports the modification of the Entire System Server DDMs only.

How to use a different DBID for the Entire System Server DDMs:

Library SYSNPR contains the CHANGEDB program which is used to modify the database ID of all Entire System Server DDMs. You will find all Entire System Server DDMs in the library SYSNPE.

The database ID entered as a new DBID value in the CHANGEDB program must also be specified as the value of the Entire System Server Interface database parameter (ESXDB) in the Natural Configuration Utility.