

# Overview of Configuration File Parameters

This chapter provides information on the parameters that can be set in the global and local configuration files.

| File | Edit | Configuration             | Search |
|------|------|---------------------------|--------|
|      |      | Global Configuration File |        |
|      |      | Local Configuration File  |        |

The configuration files can only be modified by an administrator. They should only be changed with the Configuration Utility.

After a new Natural installation, the default administrator names are SAG and DBA. For these administrators, the **Configuration** menu is available. The administrator SAG or DBA can then add further administrators to the local configuration file as defined in the section *Administrator Assignments*.

The following topics are covered below:

- Global Configuration File
- Local Configuration File

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## Global Configuration File

This parameter group contains the following categories:

- Database Management System Assignments
- Dictionary Server Assignments
- HTTP Client Parameter Settings
- Natural Version-independent Operating System Files
- NDV Environment Assignments
- Printer Profiles
- System Files

### Database Management System Assignments

The parameters which apply to the database management system assignments are grouped under the following headings:

- DBMS Assignments
- DBMS Tracing
- SQL Assignments

- XML Assignments

## DBMS Assignments

A table is shown which is used to define the database ID with which the database is mapped in the DDM.

When DBMS assignments have already been defined, they are shown in the table.

### DBID

The database ID.

#### Note:

If you are using DDMs where the database ID is set to "0", a separate entry where the database ID is also set to "0" must exist, with the corresponding database type specified. This entry is used at compilation time in order to generate the corresponding database statements into the generated program (GP).

### Type

Since the types of all databases which are to be accessed by Natural must be defined in the global configuration file, specify one of the following values for each database ID:

| Value       | Description   |
|-------------|---|
| <b>ADA</b>  | Adabas database server (this is the default).   |
| <b>ADA2</b> | Adabas database server. This database type is provided for use with Adabas as of version 6 on Open Systems and Adabas as of version 8 on mainframes. In particular, it supports Adabas LA fields, Adabas large object fields and Natural view sizes greater than 64 KB.<br><br>See also <i>Adabas Database Management Interfaces ADA and ADA2</i> in the <i>Programming Guide</i> . |
| <b>SQL</b>  | Any SQL database that can be accessed using Entire Access, which is Software AG's common interface to various SQL database systems.   |
| <b>XML</b>  | Tamino database server.   |

#### Important:

You must not define a database type for a DBID which has already been assigned to a system file in the global configuration file (see *System Files*). If you do so, an error message will be issued at Natural startup, indicating an inconsistency in the system file setting and an error when reading the database assignments.

At compilation time, the profile parameter UDB is not used to determine the database type. UDB is only used at runtime to determine the database type. The database types must be the same at compilation time and at runtime.

Exception: For compatibility reasons, it is possible to use database type ADA at compilation time and ADA2 at runtime.

## Parameter

Applies only to databases of the following types:

| Type | Description   |
|------|---|
| SQL  | If your database type is SQL, specify the string (DBMS parameter) that is to be used to establish the connection to the database system with which you want to work. See <i>Natural and Entire Access</i> in the <i>Database Management System Interfaces</i> documentation for further information on how to access SQL-type database systems. |
| XML  | If your database system is XML (Tamino), enter the URL of the Tamino database including the name of the collection which is to be accessed in this database. See <i>Natural for Tamino</i> in the <i>Database Management System Interfaces</i> documentation for further information on how to access Tamino databases.                         |

## DBMS Tracing

The settings for **Adabas Trace**, **SQL Trace** and **XML Trace** are for error diagnostics reasons. They should only be filled out when requested by Software AG support. Software AG support will provide valid values in this case.

## SQL Assignments

The tables for the SQL assignments are grouped under the following headings:

- **SQL Date/Time Conversion**

This table is used to specify the conversion masks for Entire Access.

As Natural has only one specific time format, you must decide how this format should be interpreted in the context of SQL database access. There are several possibilities, however, there is only one possibility per SQL-type DBID which can be specified here.

### DBID

Cannot be edited. Entries for the SQL-type databases defined in the **DBMS Assignments** table (see above) are automatically provided.

### Mask

The value specifies the configuration for Entire Access. It also specifies the format used to retrieve the SQL information for DATE, TIME and DATETIME into fields of Natural data format A. The mask should match the RDBMS-specific configuration for the DATE, TIME or DATETIME character string representation.

### Date

This mask (usually a sub-string of the Mask value) specifies the character string representation into which the fields of Natural data format D are converted during update or retrieval of SQL DATE columns.

**Time**

This mask (usually a sub-string of the `Mask` value) specifies the character string representation into which the fields of Natural data format T are converted during update or retrieval of SQL `TIME` or `DATETIME` columns.

**Remark**

You can enter your remarks here, for example, to document how the SQL `DATE` and `TIME` character string representation is configured on the database site.

For database systems that support a common data type both for date and for time, the hash character (#) can be used in the mask to skip non-relevant portions of `DATETIME` strings. For example, the following settings of the masks may be appropriate for the Microsoft SQL Server which supports a common `DATETIME` data type for date and time values:

```
Mask = YYYYMMDD HH:II:SS
Date = YYYYMMDD
Time = #####HH:II:SS
```

- **SQL Authorization**

This table is used to specify user IDs and passwords for an automatic login to an SQL database.

**DBID**

Cannot be edited. Entries for the SQL-type databases defined in the **DBMS Assignments** table (see above) are automatically provided.

**Auto Login**

When selected, a non-interactive login is performed to the database by using the values from this table row. Furthermore, the evaluations of the environment variables `SQL_DATABASE_LOGIN`, `SQL_DATABASE_USER`, `SQL_DATABASE_PASSWORD`, `SQL_OS_USER` and `SQL_OS_PASSWORD` are suppressed.

**Type**

To define the kind of authentication to be performed for this DBID, specify one of the following values:

| <b>Value</b> | <b>Description</b>   |
|--------------|--|
| <b>DB</b>    | Database authentication.   |
| <b>OS</b>    | Operating system authentication.                                   |
| <b>DB_OS</b> | Both, database authentication and operating system authentication. |

Please note that it depends on the database system which kind of authentication is available. Furthermore, there are restrictions concerning operating system authentication in Entire Access. See the Entire Access documentation for a more detailed description.

**DB User**

The user ID for database authentication.

**DB Password**

The password for database authentication.

**OS User**

The user ID for operating system authentication.

**OS Password**

The password for operating system authentication.

**XML Assignments**

A table is shown which is used to specify user IDs and passwords for an automatic login to a Tamino database.

**DBID**

Cannot be edited. Entries for the XML-type databases defined in the **DBMS Assignments** table (see above) are automatically provided.

**Auto Login**

When selected, a non-interactive login is performed to the database by using the values from this table row. Furthermore, the evaluations of the environment variables XML\_DB\_USER, XML\_DB\_PASSWORD, XML\_HTTP\_USER and XML\_HTTP\_PASSWORD are suppressed.

**DB User**

The user ID for Tamino database authentication.

**DB Password**

The password for Tamino database authentication.

**HTTP User**

The user ID for web server authentication.

**HTTP Password**

The password for web server authentication.

**Dictionary Server Assignments**

With dictionary servers, you can access free rules and automatic rules maintained in Predict once you have access to Predict on a mainframe or UNIX host.

You can assign so-called dictionary servers (a free rule server and an automatic rule server) to one common logical server name. It is possible to define more than one logical server name where each name represents a different pair of free rule server and automatic rule server. The servers to be assigned can be located on different nodes.

In the global configuration file, you define all dictionary servers that are available for selection in the parameter file. The name of the logical server that is to be used must then be defined in the parameter file. See *Remote Dictionary Access* in the *Overview of Profile Parameters*.

You can specify the following information:

### Name

Specify the name for a logical dictionary server.

### Free Rules

Specify the server name and node name for the server that is to be used for remote access to Predict free rules.

### Automatic Rules

Specify the server name and node name for the server that is to be used for remote access to Predict automatic rules.

## HTTP Client Parameter Settings

The following parameters are used to define the name and port number for the HTTP server.

| Option                             | See the <i>Parameter Reference</i> for a description of this profile parameter |
|------------------------------------|--|
| HTTP proxy address to use          | PROX   |
| HTTP proxy port number             | PROXPORT   |
| Do not use proxy for addresses     | NOPROX   |
| HTTPS proxy address to use         | SSLPRX   |
| HTTPS proxy port number            | SSLPRXPT   |
| Do not use SSL proxy for addresses | NOSSLPRX   |

## Natural Version-independent Operating System Files

You can specify a directory common to all installed Natural versions, which is to contain operating system-specific work files and temporary files used by all these Natural versions. These files are required for synchronization purposes and must not be deleted or modified by a Natural Administrator.

### Note:

If you use the system directory for temporary files, ensure that no automatic procedures regularly delete the contents.

## NDV Environment Assignments

When you choose this function, the currently defined ports are shown in a window. When you edit a port number (by entering "E" next to the port number and pressing ENTER), the environment assignments are shown. You can also choose <CREATE>, which is shown at the top of the window, to add environment assignments for further ports.

You can assign user-specific environments for any Natural development server (NDV). To do so, use the following syntax in the **Environment** column:

```
VARIABLE=VALUE[ ;VARIABLE=VALUE]...
```

Example:

```
+----- Environment settings for NDV port <1234> -----+
| C User      Environment                                     |
|  USER1     MYWRKFILE=/natural/prog/user1;NDVSESSION=naturalins |
|  USER2     MYWRKFILE=/natural/prog/user2;NDVSESSION=naturaltr;NAT_TRACE=1 |
|  USER3     MYWRKFILE=/natural/prog/user3;NDVSESSION=naturalsql |
|-----|
```

In the above example, 3 user environments for the server started on port 1234 are defined. The environment variable MYWRKFILE defines the path of a Natural work file. This environment variable can then be used in the **Work Files** section of a parameter file to define the location of the work file, depending on the defined user.

The variable NDVSESSION specifies the Natural image to be loaded when a mapping to the server takes place. It is only known by the Natural development server.

Suppose Natural Studio is mapping to a Natural development server with port 1234 and user ID USER2: the server loads *naturaltr* as the Natural session and any Adabas call of a started application will be traced. Work files defined with MYWRKFILE will be written to the location */natural/prog/user2*.

For information on how to configure a Natural development server under UNIX, see the Natural Development Server for UNIX documentation.

## Printer Profiles

Printer profiles are used for printing additional reports, for hardcopies and for batch output generation. They recognize particular Natural field attributes and insert the appropriate control sequences (see below) as defined in the profile.

With the ability to translate Natural field attributes into escape sequences, you can control your printer in various ways by using the right profile name, and you can use the print features of a given device by using simple attributes in Natural programs.

Each profile that you define can be assigned to a Natural report number either statically by using the Configuration Utility (see *Device/Report Assignments*), or dynamically by using the DEFINE PRINTER statement within a Natural program.

You can specify the following information:

**Profile name**

Specify the name of a new printer profile. Or press PF2 to select a defined printer profile from a list.

**External character set**

Optional. An external character set must be defined, for example, if a printer's character set is different from the system character set, or if you wish to preserve Unicode data by outputting the data in UTF-8 format.

You can specify the name of the external character set. If the name is "UTF-8", the data are converted into UTF-8 format. Otherwise, any name can be used, but it must agree with the name used in the character translation table definition in the file *NATCONV.INI*. For example, if the internal character set name (as defined near the top of the *NATCONV.INI* file) is "ISO8859\_1" and you define "FRED" as the name of the external character set in the printer profile, a section with the following name must be defined in the file *NATCONV.INI*, otherwise no character translation is performed:

```
[ISO8859_1 -> FRED]
```

Note that, in the non-UTF-8 case, the data are first converted from the in-memory format (UTF-16) into the system code page, prior to any *NATCONV.INI*-based translation being applied.

For further information on the *NATCONV.INI* file, see *Support of Different Character Sets with NATCONV.INI* in the *Operations* documentation.

**Trigger / Leading command / Trailing command**

You can specify whether commands to be triggered at job, page or field level.



| Option                  | Description   |
|-------------------------|---|
| <b>Trigger</b>          | <p>A triggering event controls the level on which specified printer control sequences are to be applied. The names of the available triggering events are listed below. Specify the name of a triggering event in the <b>Trigger</b> field to display the associated leading and trailing control sequences. You can also press PF2 to select a triggering event from a list.</p> <p><b>JOB</b> Use this triggering event if you want your control sequences to apply to an entire print job. The specified control sequences will represent the job header and/or job trailer respectively.</p> <p><b>PAGE</b> Use this triggering event if you want the control sequences to apply to each physical output page. The specified control sequences will then represent the page headers and/or page trailers respectively.</p> <p><b>FIELD</b> Use this triggering event if you want the control sequences to apply to each field (regardless of its AD, CD or PM attributes).</p> <p><b>AD and CD</b> These triggering events stand for specific attributes of the session parameters AD (attribute definition) and CD (color definition). Use these triggering events if you want the control sequences to be applied at field level only. Any field in a Natural program with corresponding attributes will then cause these control sequences to take effect. See the <i>Parameter Reference</i> for details on these session parameters.</p> <p><b>PM=I</b> Use this triggering event if you want the control sequences to apply to each field with an opposing print direction to that of the page. See the session parameter PM (print mode) and the terminal command %V (control of print mode) for more information.</p> |
| <b>Leading command</b>  | The leading control sequence is inserted immediately before the triggering event (for example, to define a job header or to set attributes for field representation).   |
| <b>Trailing command</b> | The trailing control sequence is inserted immediately after the triggering event (for example, to define a job trailer or to reset attributes previously set).  |

For each control sequence, you can specify the control characters in either alphanumeric or hexadecimal format.

**Notes:**

1. Blank characters must always be specified in hexadecimal format (^20). If they were entered directly, they would be confused with the blanks used to delimit tokens in the configuration file.
2. The escape character must always be specified in hexadecimal format (^1b) because this is a non-printable character.

**Example**

This example shows the PCL command for setting a proportional character spacing in both alphanumeric and hexadecimal format. The escape character "^1b", which must always be specified in hexadecimal format, corresponds to the decimal value 27.

Alphanumeric format:

```
^1b(s1P
```

Hexadecimal format:

```
^1b^28^73^31^50
```

**Delete profile**

Mark this field with "Y" if you want to delete the currently displayed profile.

**System Files**

A list of existing Natural system file assignments is shown.

The paths for all possible system files (that is: for all possible DBID/FNR combinations) are defined in the global configuration file. These must be valid paths which indicate the physical location of the system files on the disk.

You can specify the following information:

**DBID**

The database ID.

**FNR**

The file number.

**Alias name**

This feature applies when working in a remote development environment (SPoD) with Natural for Windows.

When you specify an alias name for a system file, this name is shown in Natural Studio's library workspace.

### Path

The path to the system file.

The DBID/FNR combination for each defined system file can then be defined in the parameter file. See *System Files* in the *Overview of Profile Parameters*.

## Local Configuration File

This parameter group contains the following categories:

- Administrator Assignments
- Buffer Pool Assignments
- Installation Assignments

### Administrator Assignments

You can specify whether a user is to be a Natural administrator or a configuration administrator. The following combinations are possible:

| +----- Administrator Assignments -----+ |                       |   |
|---|-----------------------|---|
| C User Name                             | Administrator         |   |
|   | NATURAL CONFIGURATION |   |
| NAT1                                    | Y                     | Y |
| NAT2                                    | Y                     | N |
| NAT3                                    | N                     | Y |
| NAT4                                    | N                     | N |

- When a user is defined as both Natural administrator and configuration administrator (Y/Y), the user can modify all parameter files as well as the global and local configuration files. When such a user invokes the Configuration Utility, "(Config)" is shown in the right-hand corner of the screen (instead of the user ID).

#### Note:

Only Natural administrators can be defined as configuration administrators. However, when a user is defined only as a configuration administrator (N/Y), the above information applies. This is handled as if the user has been defined as both Natural administrator and configuration administrator (Y/Y).

- When a user is defined only as a Natural administrator (Y/N), the user can modify all parameter files. The **Configuration** menu is not shown; thus, modification of the configuration files is not possible. When such a user invokes the Configuration Utility, "(Admin)" is shown in the right-hand corner of the screen (instead of the user ID).
- When a user is neither defined as a Natural administrator nor as a configuration administrator (N/N), the user can only modify his own parameter file. When such a user invokes the Configuration Utility, the user ID is shown in the right-hand corner of the screen.

## Buffer Pool Assignments

A table is shown which is used to define buffer pools. See also *Natural Buffer Pool* in the *Operations* documentation.

You can specify the following information:

### BP Name

The name of the Natural buffer pool. The name can be up to 8 characters long. The name of the default buffer pool is NATBP. See also BPID in the *Parameter Reference*.

#### **Caution:**

Do not delete the default buffer pool NATBP, as it is possible that Natural may not function properly anymore.

### BP Size

The size of the Natural local buffer pool. This setting is used during startup of the Natural buffer pool by the NATBPSRV server to create a global shared memory segment of the specified size.

Possible settings: 1 - 512 MB.

Default setting: 1.

### Maximum Users

The maximum number of users that can have simultaneous access to the buffer pool. This number determines the sizes of some internal tables stored inside the shared memory during startup.

Possible settings: 1 - 5000.

Default setting: 20.

### Directory Entries

The number of directory entries. This value is used by the NATBPSRV server during the start of the buffer pool. If the maximum value has been reached, this value is automatically increased.

Possible settings: 10 - 9999.

Default setting: 10.

### Shared Memory Key

The shared memory key for the IPC facilities that the buffer pool is using. Ask your UNIX administrator to supply the value for this key.

#### **Important:**

The shared memory key must be unique across your entire UNIX system.

### Semaphore Key

The semaphore key for the IPC facilities that the buffer pool is using. Ask your UNIX administrator to supply the value for this key.

**Important:**

The semaphore key must be unique across your entire UNIX system.

**Read Only**

When set to "ON", this is a special buffer pool which only allows read access. In this case, the values defined for the maximum number of users and for the semaphore key are ignored.

For further information, see *Read-Only Buffer Pool* in the *Operations* documentation.

**Alternate BP Name**

For a read-only buffer pool, it is possible to define the name of an alternate buffer pool. The alternate buffer pool must also be a read-only buffer pool.

For further information, see *Alternate Buffer Pool* in the *Operations* documentation.

**Installation Assignments**

You can specify the following:

**Path to parameter (PARM\_PATH)**

The location of the Natural parameter files.

**Path to user profiles (PROFILE\_PATH)**

The location of the Natural user profiles.

**Global configuration file (CONFIG\_NAME)**

The name and location of the global configuration file (default name is *NATCONF.CFG*).

**Natural error file directory (ERROR\_FILES)**

The location of the Natural error files.

**Natural I/O conversion table (NATCONV)**

The name of the file which contains the character translation tables used with the internal character set ISO-8859-1. By default, this file is called *NATCONV.INI*. See *Support of Different Character Sets with NATCONV.INI* in the *Operations* documentation for further information.

**Natural TMP directory (TMP\_PATH)**

The location of Natural temporary output.

**Binary load path (NATEXTLIB)**

The location of binary libraries of further Software AG products using Natural.

**Terminal database (NATTCAP)**

The name of the database which contains the descriptions of the terminal capabilities for each terminal type supported by Natural. See *Natural Termcap (NATTERMCAPI) Utility* in the *Utilities* documentation for further information.

**Text file path (TXT\_PATH)**

The location of messages, choices and help texts used by the editors and by the Natural Termcap utility.

**Note:**

When specifying a path, you can use \$NATDIR and \$NATVERS. When you press TAB after having specified a valid path, the path is automatically expanded.