

Natural UNIX User Exits

The Natural UNIX user exits are external libraries built on the UNIX machine to be called by the different Entire Screen Builder components running on the UNIX machine. They are only called by the Entire Screen Builder components in Natural UNIX, this means: the Natural UNIX user exits are never called by the Entire Screen Builder Server.

The Natural UNIX user exits are available for all types of viewers (GUI viewers and Terminal Viewer).

This chapter assumes that you are familiar with programming in C, makefiles and the shared library concept of UNIX.

The following topics are covered below:

- Using the Shared Library
 - Sample for a Natural UNIX User Exit
 - `nsw_CheckUsernameAndPassword`
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Using the Shared Library

A shared library is a set of user-written functions that can be loaded dynamically by any program that needs to execute any function defined in the library. It is the same as a DLL in Windows.

To use the shared library, you must set the environment variable `NSWUSEREXIT1` before starting the `nswsrvd` daemon. The variable must point to the library as follows:

```
NSWUSEREXIT1=$NSWDIR/samples/userexit/libnswuserexit1.sl ; export NSWUSEREXIT1.
```

The extension depends on the UNIX operating system. For example, `sl` applies to HP and `so` applies to Solaris.

Sample for a Natural UNIX User Exit

A sample for the Natural UNIX user exit can be found in the directory `$NSWDIR/samples/userexit`. There are two files in this directory:

- *Makefile*

Create the shared library using the following UNIX command:

```
make lib
```

- *nswuserexit1.c*

An example of the user exit.

nsw_CheckUsernameAndPassword

This function checks whether user name and password that have been sent from the PC are correct.

Important:

The user exit is responsible for security. The *nswusr* program does not perform any security checks.

When the security option C is used in the *services.dat* file, the function `nsw_CheckUsernameAndPassword` is called from the *nswusr* program. The user name and password sent from the PC are then passed to this function which checks these values.

`pUserMessage` can be used to display a user message in the viewer instead of the standard message. If `pUserMessage` is empty, the standard message is displayed. If `pUserMessage` is not empty, its content (i.e. the user message) is displayed.

When this function returns 0, the *nswusr* program sends either the standard message ("Invalid user name or password") or the user message (for example, "Invalid credentials") to the PC and then waits for a new user name and password.

When this function returns 1, the *nswusr* program starts the shell script defined in the *services.dat* file to run the Natural application. A standard message is not displayed. However, if a user message has been defined (for example, "Congratulations"), it is displayed.

Syntax

```
int nsw_CheckUsernameAndPassword
    (const char *username, const char *password, char *pUserMessage)
```

Input Parameters

<code>const char *username</code>	The user name sent from the PC.
<code>const char *password</code>	The password sent from the PC.
<code>char *pUserMessage</code>	User message to be displayed in the viewer. Maximum size: 512 bytes.

Return Values

- 0 Standard message "Invalid user name or password" or user message.
- 1 Valid user name and password.