Natural ISPF

Installation

Version 9.2.3

September 2025

ADABAS & NATURAL

This document applies to Natural ISPF Version 9.2.3 and all subsequent releases.

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

Document ID: ISP-INSTALL-923-20250930

Table of Contents

Preface

This documentation is intended for the Natural ISPF system administrator and describes Natural ISPF installation procedures. Separate sections explain how to set up the Natural ISPF environment according to the requirements of your site.

This documentation covers the following topics:

General Installation Information	About the installation jobs. Prerequisites for Natural ISPF. Contents of the installation medium. How to migrate from a previous version.
Installation Procedure	How to install Natural ISPF in the various environments supported by the current version of Natural ISPF.

Further customization facilities are described in the *Natural ISPF Programmer's Guide*.

Naming Conventions

In the description of installation procedures, all file names that contain the notation `ISP`*`vrs`* refer to the current version of Natural ISPF, where *`vrs`* stands for version number, release level and SM level. For the current value of *`vrs`*, see the label of the installation medium.

The section *Natural ISPF Libraries* of the *Natural ISPF Administration Guide* contains a table that lists all Natural ISPF libraries as they appear after loading the installation medium, together with a descriptive name as to the library content. For example, a library named `SYSISPX` could be the Exit Library.

1 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 (...).

Online Information and Support

Product Documentation

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

Product Training

You can find helpful product training material on our Learning Portal at **https://learn.softwareag.com**.

Tech Community

You can collaborate with Software GmbH experts on our Tech Community website at **https://techcommunity.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 GmbH 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 GmbH resources.

Product Support

Support for Software GmbH 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 General Installation Information

Installation Jobs

The installation of Software AG products is performed by installation jobs. These jobs are either created “manually” or generated by System Maintenance Aid (SMA).

For each step of the installation procedure described in this documentation, the job number of a job performing the corresponding task is indicated. This job number refers to an installation job generated by SMA. If you are not using SMA, an example installation job of the same number is provided in the installation job library on the Natural ISPF installation medium; you must adapt this example job to your requirements. Note that the installation job numbers on the medium are preceded by a product code (for example, ISPI061).

Using System Maintenance Aid

Information on using Software AG's System Maintenance Aid (SMA) for the installation process is provided by the System Maintenance Aid documentation.

Prerequisites

Before you can install Natural ISPF, the following Software AG products must already be installed at your site:

- Natural for Mainframes, including the Software AG Editor.
- The currently supported Entire System Server releases to access operating system data (optional).
- The currently supported System Automation Tools releases if Mainframe Navigation is used.
- If VSAM files are used: Natural for VSAM (NVS) (optional).
- For an initial installation using Adabas system files, a currently supported Adabas version is required.
- If Predict is installed, a currently supported Predict version is required.
- If Mainframe Navigation is used, Natural Development Server (NDV) or a Natural Remote Procedure Call (RPC) environment using EntireX is required.

Contents of the Installation Medium

The installation medium contains the following files:

z/OS Medium

Medium file name	Description
ISP*vrs*.JOBS	Natural ISPF installation jobs.
ISP*vrs*.INPL	Natural ISPF programs.
ISP*vrs*.ERRN	Natural ISPF error messages.
ISP*vrs*.SYS1	Natural ISPF empty versioning file.
ISP*vrs*.SYS2	Natural ISPF empty container file.
ISP*vrs*.DATA	Natural ISPF Predict file descriptions.
ISP*vrs*.VINI	Natural ISPF VSAM init file.

Migrating from Previous Versions

Important Aspects of the Installation Procedure

1. Check whether you have used any Natural ISPF exits which were loaded into library SYSISPX. If this is the case, you must make sure that your modified source is copied to another library. If you have not already done so, do it before installing the new version, since an INPL of Natural ISPF overwrites all programs in SYSISPX.
2. Before installing the new version, you must delete some existing programs and data. Delete the following:

Library Name	Programs
SYSLIB	All objects with prefix IS (IS*). Job I051, Step 2002 can be used to delete these objects in batch mode
SYSISPS1	All members (*). Job I051, Step 2000 can be used to delete this library in batch mode (or Step 2001 for VSAM system files).

3. Some internal data structures have been changed in Version 2, compared with earlier versions. In particular, the field SESSION-DATA has been extended from 128 to 200 bytes. This field is used in some of the user exits as well as in Open NSPF subprograms which implement new objects. Here the field is called OPERATION-DATA.

4. After deleting all members in `SYSISPS1` you will have to rerun `INPL` of product SAT to show all menu items of the products NOM and NOP.

3 Installation Procedure

This chapter describes installation procedure for Natural ISPF under the operating system z/OS.

Caution: If you are migrating from a previous version of Natural ISPF, be sure to refer to the section *Migrating from Previous Versions*.

Step 1: Prepare, Convert, Assemble, and Link the License File

(Job I007, Steps 2001, 2002, 2004)

You must install a valid Natural ISPF license file.

For detailed information on the license file and product licensing, see *Software AG Mainframe Product Licensing*.

1. Copy the license file from the supplied installation medium to disk or transfer it from the PC as described in *Transferring a License File from PC to a z/OS Host Using FTP* in *Software AG Mainframe Product Licensing*.
2. Check, convert, assemble, and link the license file:

Step 2001	Check license file `ISPvrs.LICS`. This job runs the CHECK function of the LICUTIL license utility (see below).
Step 2002	Convert license file into an assembler source. This job runs the MAKE function of the LICUTIL license utility (see below).
Step 2004	Assemble and link the assembler source to generate load module `ISPLIC`. This module is then linked to the nucleus.

3. The functions and option settings provided by LICUTIL are described in *Using the License Utility: LICUTIL* in *Software AG Mainframe Product Licensing*.

Step 2: Copying the Medium Contents to Disk

To load the Natural ISPF installation medium, proceed as follows:

For z/OS:

Copy the data sets from the supplied installation medium to your disk before you perform the individual installation procedure for each component to be installed.

The way you copy the data sets depends on the installation method and the medium used:

- If you use System Maintenance Aid (SMA), refer to the copy job instructions provided in the *System Maintenance Aid* documentation.
- If you are not using SMA and want to copy the data sets from CD-ROM, refer to the README.TXT file on the CD-ROM.
- If you are not using SMA and want to copy the data sets from tape, follow the instructions in this section.

This section explains how to copy all data sets from tape to disk.

Step 1: Copy Data Set COPY.JOB from Tape to Disk

- Modify the following sample job according to your requirements:

```
//SAGTAPE JOB SAG,CLASS=1,MSGCLASS=X
//* --------------------------------
//COPY EXEC PGM=IEBGENER
//SYSUT1 DD DSN=COPY.JOB,
// DISP=(OLD,PASS),
// UNIT=(CASS,,DEFER),
// VOL=(,RETAIN,SER=tape-volser),
// LABEL=(2,SL)
//SYSUT2 DD DSN=hilev.COPY.JOB,
// DISP=(NEW,CATLG,DELETE),
// UNIT=3390,VOL=SER=disk-volser,
// SPACE=(TRK,(1,1),RLSE),
// DCB=*.SYSUT1
//SYSPRINT DD SYSOUT=*
//SYSIN DD DUMMY
//
```

  where:

  tape-volser is the VOLSER of the tape, for example: `T12345`,
  hilev is a valid high-level qualifier, and
  disk-volser is the VOLSER of the disk.

- Execute the job to copy the data set `COPY.JOB` to your disk.

Step 2: Modify hilev.COPY.JOB on Your Disk

- Modify *hilev*.COPY.JOB according to your requirements:

  Set EXPDT to a valid expiration date, for example, 99365.

  Set HILEV to a valid high-level qualifier, for example, USERLIB.

  Set LOCATION to a storage location, for example, STORCLAS=ABC or UNIT=3390,VOL=SER=USR123.

Step 3: Submit COPY.JOB

- Execute *hilev*.COPY.JOB to copy single, multiple, or all data sets to your disk.

Step 3: Loading System Programs and Error Messages

Load files ISP*vrs*.INPL and ISP*vrs*.ERRN. They load objects into the following Natural libraries (if a library does not yet exist, it is created):

Library Name	Description
SYSLIB	Programs
SYSLIBS	Incore database modules
SYSERR	Error messages
SYSISPS1	ISPF system tables / menus / profiles
SYSISPFU	ISPF user tables / menus / profiles
SYSISPH1	ISPF system help texts
SYSISPDB	ISPF Incore database modules
SYSISPX	ISPF exit sources
SYSISPXC	ISPF user exits for Com-plete
SYSISPE	ISPF example library
SYSISPI	ISPF system interface library
SYSISPXU*	ISPF user-defined exit sources
SYSISPHU*	ISPF user-defined help texts
SYSISPIU*	ISPF user-defined information (UINFO)

* The libraries marked with an asterisk (*) are created only, if Natural Security is installed at your site (see also *Natural Security Definitions*).

Job I061

Load the files using Job I061, Steps 2000 (INPL) and 2001 (ERRN).

For All Platforms on which Natural Security is Installed

If return code 5500 or 828 is issued, the job may not be authorized to make all Natural Security entries at your site. If this happens, reload program INTISPS1 from the INPL and run it in library SYSTEM in online Natural to ensure that all security entries are made.

Step 4: Loading Predict Data

Note: This step must be skipped if you are using a Natural VSAM system file.

All Natural ISPF files used in Incore database examples are documented in Software AG's repository Predict. The ISP*vrs*.DATA data set on the installation medium contains these Predict data that can be loaded with the MIGRATE utility in Predict. This is optional.

The MIGRATE utility is described in the *Predict Reference* documentation. Use Job I200, Step 2000 to load the file.

Note: The Predict MIGRATE utility may issue warning message IC2629, indicating that different fields are using the same Adabas short names. You can ignore this message. You can also ignore the message: Attribute OPSYS lost.

Step 5: Modifying the Online Natural Parameter Module

Check the NATPARM module to see if it contains the following definitions. If not, add them:

Definitions	Description
SSIZE=64	Editor area.
ASIZE=64	Entire System Server area also required for IDB.
CDYNAM=10	Minimum value.
CSTATIC=(... , NATPM, ...)	Optional setting. Required only if Incore database applications make use of Natural's inverse direction display facility (for example, for use in Middle Eastern countries) (see *Natural ISPF Administration Guide*, section *User Exits*).
SYNERR=ON	Trap syntax errors.
MAXCL=0	Recommended.
MADIO=0	Recommended.

Definitions	Description
LE=OFF	Limit error (see Natural *Parameter Reference* documentation for details).
RECAT=OFF	To allow stow of macros.
NTPRINT=(...)	Define at least Printers 1 and 2 (see Natural *Operations* documentation). Note that if no printer can be accessed, the functions WORKPOOL and BROWSE-VIEW are not available.
NTWORK(5,7),AM=PC,OPEN=ACC,CLOSE=CMD or NTWORK(5,7),AM=PC	
NTFILE ID=186,DBID=*n*,FNR=*m*	Definition of container file. If a VSAM container file is used, PASSW=ISPC must be added to this statement.
NTFILE ID=205,DBID=*n*,FNR=*m*, PASSW=*passw*	Definition of versioning file. Required if Adabas versioning file is to be password-protected or a VSAM versioning file is used. If VSAM, specify PASSW=ISPV.
NTDB PROCESS,148 *	Mandatory Entire System Server node.
NTDB INCORE,147 *	Definition of incore database. **

* These definitions are required only if the Entire System Server (formerly Natural Process) is installed. Note also that the NTDB definitions must always be at the end of the NATPARM module. It is important that even if your Entire System Server default node ID is different from 148, the entry, NTDB PROCESS 148, has to remain unchanged here.

** All Incore database examples use this DBID. If 147 cannot be used at your site, all Incore database DDMs (ISP-IDB*) must be recataloged with the new value specified here. All Incore database example programs (IDB* and VER* in the example library) must also be recataloged accordingly.

If the specified SSIZE value is not available when Natural ISPF is invoked, no Natural ISPF command is accepted (the message Invalid command appears). If this happens, check whether SSIZE is available using the Natural command BUS.

Notes:

1. If the IMPORT/EXPORT PC functions are to be used with Entire Connection, Workfile 7 must be assigned to PC or PC3 (for example, NTWORK (7),AM=PC). The default Workfile 7 can be modified (see the description of the *Import/Export Exits* in the *Natural ISPF Administration Guide*, section *User Exits*).
2. Use the NTPRINT macro to define at least Printers 1 and 2 (see the Natural *Parameter Reference* documentation).
   - If you specify NTPRINT (1,2),AM=OFF or the equivalent PRINT=OFF, the WORKPOOL and BROWSE-VIEW functions are not available. Of course, you can also specify the printer definitions online using the PRINT parameter which can complement or override the NTPRINT definitions.

- You can specify any access method of your choice, but when using Natural ISPF in an online environment, you should specify the options `OPEN=ACC`, `CLOSE=OBJ` (it may be acceptable for batch environments to use the options `OPEN=INIT`, `CLOSE=FIN`).

Job I080

Reassemble and link the `NATPARM` module when modified (JCL is contained in member `NATI080` in the Natural installation job library).

Step 6: Modifying Natural VSAM Parameters

Note: Only required if Natural VSAM system files are used.

Set parameter `KEYLGH` in macro `NVSPARM` to `126`. Then reassemble and link the macro using Job `NVSI055`, Steps 1400 and 1401. This job can be found in library `NAT`*`vrs`*`.JOBS` or `NVS`*`vrs`*`.JOBS`.

Step 7: Assembling the Parameter Modules for the ESX Component

Please refer to the section *Installing the Entire Systems Server Interface* in the Natural *Installation* documentation for Mainframes to install the ESX component.

Step 8: Linking the Gateway Modules for the ESX Component

Please refer to section *Installing the Entire Systems Server Interface* in the Natural *Installation* documentation for Mainframes to install the ESX component.

Step 9: Relinking Natural with Natural ISPF

Please refer to the section Natural *Installation* documentation for Mainframes to install the ESX component.

Modules required if Natural VSAM system files are used (from Natural VSAM library):

Link Job	Description
INCLUDE NVSPARM	Natural VSAM parameter (see *Modifying Natural VSAM Parameters*)
INCLUDE NVSISPV	Natural VSAM versioning file access
INCLUDE NVSLIB	Natural VSAM container file access

Note: If you are using a shared Natural nucleus, all modules can be linked to the shared nucleus.

Step 10: Loading / Migrating the Natural ISPF Versions File

The Natural ISPF versions file is used to store "update decks" for edited Natural members and PDS members. This means that if versioning is active, previous versions of these object types are kept when selected for editing and can be retrieved.

Note: For Natural objects: this applies only to objects that are maintained using the Software AG Editor, that is, maps and data area objects cannot use versioning.

You can use an Adabas file or a VSAM file as versions file.

Loading a Versions File

Follow these instructions if you do not yet have a versions file.

Adabas Versions File

Load the empty Natural ISPF versioning file (data set ISP*vrs*.SYS1) using the ADALOD utility. All versioning data is stored in this file. The ADALOD parameter ISNREUSE must be set to YES:

```
ISNREUSE=YES
```

The file number of the versions file can be freely chosen and must be entered in the Natural ISPF parameter screen of the configuration option. See the *Natural ISPF Administration Guide*, section *System Configuration*, subsection *Natural ISPF Parameters*.

If the versions file is to be protected by an Adabas password, the password must be defined to Natural using the following NTFILE macro:

```
NTFILE ID=205,DBID=n,FNR=m,PASSW=password
```

Note: When the NTFILE/LFILE parameter is used, regardless if with or without PASSW, the values for VERSIONS DBID and VERSIONS FNR in the Natural ISPF parameters are ignored, but some values must be set in these fields to activate versioning. It is highly recommended to use the correct numbers to prevent confusion.

Recommended ADALOD Parameters

The following ADALOD parameters are recommended:

I050 2000 ADALOD FOR ISPF VERSIONING FILE

Parameter	Value
DSN	ISP*vrs*.SYS1
VERSION	7
NAME	ISP-VERSIONS
MAXISN	5000
DSSIZE	500B
UISIZE	5B
NISIZE	15B
ISNREUSE	YES

Job I050 step 2000

Additional parameters can be found in Job I050, Step 2000.

VSAM Versions File - z/OS only

1. Add the following statement to the Natural parameter module:

   ```
   NTFILE ID=205,DBID=n,FNR=m,PASSW=ISPV
   ```

   where:

   n is any VSAM DBID

   m is any number

   ISPV is DD(FCT,DLBL) name of the VSAM file.

   Note: Due to the usage of the NTFILE/LFILE parameter, regardless if with or without PASSW, the values for VERSIONS DBID and VERSIONS FNR in the Natural ISPF parameters

are ignored, but some values must be set in these fields to activate versioning. It is highly recommended to use the correct numbers to prevent confusion.

2. The module NVSISPV must be linked to the Natural for VSAM nucleus.

   If you wish to use a VSAM file as versions file, sample JCL for defining the VSAM cluster can be found in Job I008, Step 2000.
3. Natural for VSAM parameter KEYLGH must be set to 126 (minimum value).
4. The file must be initialized by loading the data set ISP*vrs*.VINI with VSAM repro. See Job I008, Step 2001.

Under CICS

If you are defining a VSAM versions file under CICS, add an FCT entry. For an example, see Job I005.

Under Com-plete

If you are defining a VSAM versions file under Com-plete, catalog the VSAM versions file as follows:

- Under Com-plete, use the CA function of the UFILE utility, and add the card:

```
DDN=ISPV,VS,R,U,A,MACR=(SEQ,DIR,KEY,SKP,NSR),MRPL=8
```

You must also add the appropriate DD cards to the Com-plete startup procedure. For example:

```
ISPV  DD  SAGLIB.VSAM.ISPVERS,DISP=SHR
```

Under TSO

If you are defining a VSAM versions file under TSO, add the following statement to your CLIST for Natural:

```
ALLOC F(ISPV) DA('SAGLIB.VSAM.ISPVERS') SHR
```

Step 11: Loading the Natural ISPF Container File

The Natural ISPF container file can be used to store Incore database files, which can then be retrieved and manipulated in the Incore database.

You can use an Adabas file or a VSAM file as container file.

Adabas Container File

Omit this step if you already have a Natural ISPF container file.

Load the empty Natural ISPF container file (data set `ISP`*`vrs`*`.SYS2`) using the `ADALOD` utility. All Incore database data is stored in this file.

Recommended ADALOD Parameters

Following `ADALOD` parameters are recommended:

I050 2001 ADALOD FOR ISPF CONTAINER FILE

Parameter	Value
DSN	ISP*vrs*.SYS2
VERSION	7
NAME	ISP-CONTAINER
MAXISN	5000
DSSIZE	500B
UISIZE	5B
NISIZE	15B
ISNREUSE	YES

The file number of the container file can be freely chosen and must be defined using the `NTFILE` parameter in the `NATPARM` module.

If the container file is to be protected by an Adabas password, the password must be defined to Natural using the following `NTFILE` macro:

```
NTFILE ID=186,DBID=n,FNR=m,PASSW=password
```

Job I050 Step 2001

Additional parameters can be found in Job I050, Step 2001.

VSAM Container File - z/OS only

1. Add the following statement to the Natural parameter module:

   ```
   NTFILE ID=186,DBID=n,FNR=m,PASSW=ISPC
   ```

   where:

   n is any VSAM DBID

   m is any number

   ISPC is `DD(FCT,DLBL)` name of the VSAM file.
2. The module `NVSISPC` must be linked to the Natural for VSAM nucleus.

   Sample JCL for defining the VSAM cluster can be found in Job I008, Step 2002.
3. Natural for VSAM parameter `KEYLGH` must be set to `126` (minimum value).
4. The file must be initialized by loading the data set `ISPvrs.VINI` with VSAM repro. See Job I008, Step 2003.

Under CICS

If you are defining a VSAM container file under CICS, add an FCT entry. For an example, see Job I005, Step 2203.

Under Com-plete

If you are defining a VSAM container file under Com-plete, catalog the VSAM container file as follows:

```
DDN=ISPC,VS,R,U,A,MACR=(SEQ,DIR,KEY,SKP,NSR),MRPL=8
```

You must also add the appropriate `DD` cards to the Com-plete startup procedure. For example:

```
ISPC  DD  SAGLIB.VSAM.ISPCONT,DISP=SHR
```

Under TSO

If you are defining a VSAM container file under TSO, add the following statement to your CLIST for Natural:

```
ALLOC F(ISPC) DA('SAGLIB.VSAM.ISPCONT') SHR
```

Step 12: Natural Security Definitions

Note: This step applies only if Natural Security is installed at your site.

All security entries for applications and files are made automatically. The entries are not protected and may thus require appropriate modification by the system administrator.

1. Define the applications:

Application	Description
SYSISPS1*	ISPF system tables / menus / profiles
SYSISPFU*	ISPF user tables / menus / profiles
SYSISPH1	ISPF system help texts
SYSISPDB	ISPF Incore database modules
SYSISPX*	ISPF exit sources
SYSISPXC*	ISPF user exits for Com-plete
SYSISPE	ISPF example library
SYSISPI	ISPF system interface library
SYSISPXU*	ISPF user-defined exit sources
SYSISPHU*	ISPF user-defined help texts
SYSISPIU*	ISPF user-defined information (UINFO)

* To increase security, the applications marked with an asterisk (*) should be defined as people-protected (private) and be linked to the system administrator. Startup programs and error transactions must not be defined, and all applications should allow REPORT mode.

Note: All libraries ending with U are empty, as they are to be used for customized menus and site-specific help and online information. The content of all other libraries is supplied by Software AG. However, INPL will load modules COPYSYS and ISP-C*vrs*N into library SYSISPFU to ensure proper execution of sample modules.

2. Define the following files in Natural Security as public:

```
ISP-IDB-ADRESSEN
ISP-IDB-CLASS
ISP-IDB-DIRECTORY
ISP-IDB-EMPL-LIST
ISP-IDB-EMPLOYEES
ISP-IDB-INCOME
ISP-IDB-MUSIC
ISP-IDB-NPRUSER
ISP-IDB-TEXT
ISP-IDB-MOVIES
ISP-IDB-PERSON
ISP-IDB-MENU-LINES
ISP-IDB-MENU-CMDS
ISP-IDB-TIMER
```

These files are used in Incore database examples.

3. From the Natural Security Administrator Services Menu, select code `G` (General Options) and set the field `Free access to functions` via interface subprograms to value `Y`.

Step 13: Required Interfaces to Other Software AG Products

Library `SYSISPI` contains some interface programs to other Software AG products. Execute program `INSTALL` from this library to ensure that all required interface programs are installed properly.

The `INSTALL` program makes sure that all required interface programs are installed properly by copying them from the library `SYSISPI` to `SYSLIB` and/or `SYSLIBS`. In addition `INSTALL` copies your user exits from the user exit library to `SYSLIB`, thus ensuring that Natural ISPF will not be invoked without your user exits being active.

Before executing the program `INSTALL` in a Natural Security environment, be sure that the pre-requisites mentioned in Note 1 (see below) are fulfilled.

The following screen will be displayed by `INSTALL`, fill in the input fields and press `PF5` to start execution:

```
Please fill in fields and press PF5 to start
 08:38:02                  N A T U R A L   I S P F              07-11-15
                            Installation Program

 Installation environment
   Natural version  ... FNAT DB     ... FNR    ...
   PREDICT version  ...
   Natural security ...

 Installation parameters
   Enter printer to trace activities. . . . .  :
   Copy user exits from library . . . . . . .  :   SYSISPXU
   Copy user profiles from file number  . . .  :      ...
   Do you want N-ISPF to be the only
   user interface (no MAINMENU any more) (Y/N) :   N









Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
                  END         OK
```

The meaning of the input fields:

Field	Meaning
`Printer to trace activities`	The Natural utility `SYSMAIN` is used for copying interface programs and user exits. If you want to trace the generated `SYSMAIN` commands, enter a printer name in this field.
`Copy user exits from library`	If you want `INSTALL` to copy your user exits to `SYSLIB`, enter the name of the library where your exits are stored. If this field is blank, before starting execution, `INSTALL` displays a warning that no exits will be copied. **Note:** If you are installing Natural ISPF for the first time, delete the default value and set this field to blank.
`Do you want Natural ISPF to be the only user interface (no longer using MAINMENU)? (Y/N)`	Use default `N` if you want to keep `MAINMENU` active. `Y` replaces `MAINMENU` with the Natural ISPF user interface.
`Have exits been migrated to version 2.1.x conventions at least? (Y/N)`	If you are migrating from a version lower than 2.1.1: Since the parameters for some of the user exits have changed, confirm that your user exits have been modified as described in the section *Migrating from Previous Versions*. **Caution:** Copying exits with old parameter lists results in serious run time errors.

Depending on the version of the products installed, the following programs will be copied to SYSLIB and/or SYSLIBS:

Program	Description
NSCX*	Natural Security interface subprograms
SAT*	System Automation Tools subprogram
IS-NCP-*	Default command processors for Natural ISPF
NSPF	For Natural ISPF *

* Last program to be copied, used for verification of successful execution of the INSTALL program.

Important: The INSTALL program must be executed after every INPL of Natural and/or Natural Security.

Notes:

1. Before executing the INSTALL program, check whether the libraries SYSISPFU, SYSISPS1, SYSLIB and SYSLIBS are defined in Natural Security, and verify that you are authorized to access them.
2. All user exits are copied to SYSLIB (members IS* from SYSISPX or from the library specified in the screen above).
3. If the FNAT system file is protected by an Adabas password, INSTALL prompts for the password. If the FNAT system file resides in a VSAM file, INSTALL prompts for the FNAT name as defined in the NATPARM parameter module.
4. Some of the copy operations performed during execution of the INSTALL program are done as "copy without replacement". For this reason, any NAT4810 messages reported during execution of the INSTALL program are normal and can be ignored.
5. If the INSTALL program has not executed successfully, Natural ISPF cannot be started.

Step 14: Optional Interfaces to Software AG Products

Con-nect Application Programming Interface

If you intend to transfer files to and from Con-nect, or if you want to activate the Con-nect subsystem of Natural ISPF, the application programming interface must be copied: you must copy all objects starting with Z from the library SYSCNT2 to the library SYSLIBS.

Notes:

1. The Con-nect system file must be assigned to a physical database file.

2. Library SYSLIB may also contain old programs beginning with Z from previous installations. All these interface programs must be deleted to ensure that Natural ISPF calls the newest versions.

Extended Natural / USPOOL Interface under Com-plete

If you are installing Natural ISPF under Software AG's TP-Monitor Com-plete, you also have the option of installing the extended Natural/USPOOL interface. This interface enables Natural ISPF users to use logical printer drivers defined in Com-plete, when printing Natural ISPF objects. If you choose not to install this interface, it is still possible to route Natural ISPF printouts to printing devices defined within Com-plete, but users will not be able to use logical printer drivers.

No specific installation steps are required. It is sufficient to activate the USPOOL interface by setting APPLYMOD 22, as described in the *Natural ISPF Administration Guide*.

Step 15: CA Librarian Interface - z/OS only

To activate the CA Librarian interface, you must assemble and link the Entire System Server (formerly Natural Process) module NATPAML into the Entire System Server load library. For instructions, refer to the section *Installation* in the Entire System Server documentation.

Step 17: Starting Natural ISPF for the First Time

Notes:

1. If you are using the Natural ISPF user interface, you can omit this step.
2. The PS parameter must not exceed 43. If it does, Natural ISPF will display a warning at startup time: NATURAL />>> Page size (parameter PS) must not exceed 43. Natural ISPF is designed to work with the most common display devices. As it accesses the SAG Editor frequently, the whole screen is kept in arrays which are dimensioned to work with terminals. A PS value greater than 43 will result in runtime errors or dumps of the executing Natural nucleus.

To start Natural ISPF, enter the command:

```
SPF
```

in the command line of your Natural session. This displays the Natural ISPF main menu on your terminal screen. Select the ADMIN (Administrator Functions) option from the Main Menu. The Administrator Menu appears.

All available administrator functions are described in the *Natural ISPF Administration Guide*.

Starting Natural ISPF in Batch

Natural ISPF can be used in batch environments similar to online sessions. However, there are some prerequisites:

1. The entire SAG Editor environment must be linked to the Natural nucleus, and the necessary files (Editor Work File) and the correct parameters must be supplied, in particular:
2. The PS parameter must not exceed 43. See note above.

Step 18: Installation Verification

To verify whether the installation of Natural ISPF was successful, issue the following commands in the Natural ISPF Main Menu:

```
LOGON SYSISPE
PLAY MAC VERIFY
```

This starts a Natural ISPF command script which guides you through a test cycle of various Natural ISPF functions. First, a help screen appears that tells you how to control the test run and which components are tested. Press PF3 to continue; the next screen is the output of the Natural ISPF TECH command.

Step 19: Moving Incore Database Applications to Production Environment

To move Incore database applications to your production environment, proceed as follows:

1. Repeat all steps in this installation except the following:
   - Do not load the Natural ISPF INPL data set.
   - Do not load the Natural ISPF versions file.
   - Natural Security definitions are not required.
   - Do not execute the Natural ISPF INSTALL program.
   - Neither the Con-nect interface nor the USPOOL and CA Librarian interfaces are required.

2. Use SYSMAIN to copy all objects from SYSISPDB to SYSTEM (or another STEPLIB of the application that uses the CALLNAT interface) in the production environment, or define SYSISPDB as STEPLIB for your application.
3. If an explicit creation of an incore file is used in your application, you also need the file (DDM) in your production environment. Use SYSMAIN to copy it.
4. Define library SYSLIBS as steplib for your Incore database applications.