

NaturalONE

Installation

Version 9.1.1

October 2018

This document applies to NaturalONE Version 9.1.1 and all subsequent releases.

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

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Preface

NaturalONE is installed using the Software AG Installer, which you download from the Software AG Empower website at <https://empower.softwareag.com/>.

This documentation provides product-specific instructions for installing NaturalONE. It is intended for use with *Using the Software AG Installer*. That guide explains how to prepare your machine to use the Software AG Installer, and how to use the Software AG Installer and Software AG Uninstaller to install and uninstall your products. The most up-to-date version of *Using the Software AG Installer* is always available at <http://documentation.softwareag.com/> (Empower login required).

This documentation is organized under the following headings:

System Requirements	Supported operating system platforms and browsers. Java prerequisites and hardware requirements.
Important Information	Important information that you should be aware of before you start the installation.
Installing NaturalONE	Describes how to install NaturalONE with the Software AG Installer, how to proceed after the installation, and how to uninstall NaturalONE.
Using Your Own Eclipse	Describes how to proceed if you want to use NaturalONE in your existing Eclipse environment.
Using an Existing Natural Development Server Environment	Lists the requirements if you prefer to use your own Natural Development Server (NDV) environment instead of the local Natural runtime that is installed with NaturalONE.
Using an EntireX RPC Environment	Describes how to proceed if you want to configure an EntireX RPC environment (Broker and Natural RPC server) instead of using the default configuration of the one that is installed with NaturalONE.

For important last-minute information, see the readme file that is provided with NaturalONE. You can find it in the NaturalONE product documentation at <http://documentation.softwareag.com/> (Empower login required).

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Document Conventions

Convention	Description
Bold	Identifies elements on a screen.
Monospace font	Identifies service names and locations in the format <code>folder.subfolder.service</code> , APIs, Java classes, methods, properties.
<i>Italic</i>	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

Software AG Documentation Website

You can find documentation on the Software AG Documentation website at <http://documentation.softwareag.com>. The site requires credentials for Software AG's Product Support site Empower. If you do not have Empower credentials, you must use the TECHcommunity website.

Software AG Empower Product Support Website

If you do not yet have an account for Empower, send an email to empower@softwareag.com with your name, company, and company email address and request an account.

Once you have an account, you can open Support Incidents online via the eService section of Empower at <https://empower.softwareag.com/>.

You can find product information on the Software AG Empower Product Support website at <https://empower.softwareag.com>.

To submit feature/enhancement requests, get information about product availability, and download products, go to [Products](#).

To get information about fixes and to read early warnings, technical papers, and knowledge base articles, go to the [Knowledge Center](#).

If you have any questions, you can find a local or toll-free number for your country in our Global Support Contact Directory at https://empower.softwareag.com/public_directory.asp and give us a call.

Software AG TECHcommunity

You can find documentation and other technical information on the Software AG TECHcommunity website at <http://techcommunity.softwareag.com>. You can:

- Access product documentation, if you have TECHcommunity credentials. If you do not, you will need to register and specify "Documentation" as an area of interest.
- Access articles, code samples, demos, and tutorials.
- Use the online discussion forums, moderated by Software AG professionals, to ask questions, discuss best practices, and learn how other customers are using Software AG technology.
- Link to external websites that discuss open standards and web technology.

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 System Requirements

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Supported Operating System Platforms

NaturalONE supports the following 64-bit operating system platforms:

Microsoft Windows 10 Professional and Enterprise
Microsoft Windows Server 2012
Microsoft Windows Server 2016
Red Hat Enterprise Linux 7
SUSE Linux Enterprise Server 12
CentOS Linux 7

Home Editions of Microsoft Windows are not supported.

For Windows, the runtime components of NaturalONE are always 32-bit applications, even on 64-bit platforms.



Notes:

1. We suggest that you install all of the recommended and important Microsoft Windows updates before you start the installation.
2. On Windows 8.1 and Windows Server 2012 R2 the installation will fail if the Microsoft update KB2919355 is missing.

Supported Browsers

NaturalONE supports the following browsers:

Internet Explorer 11
Microsoft Edge
Mozilla Firefox Extended Support Release 52 ⁽¹⁾
Google Chrome ⁽²⁾

Notes:

⁽¹⁾ Only the Extended Support Releases of Mozilla Firefox are explicitly supported. Due to frequent upgrades of the Mozilla Firefox consumer release, the compatibility of NaturalONE with future versions of Mozilla Firefox cannot be fully guaranteed. Possible incompatibilities will be removed during the regular maintenance process of NaturalONE.

⁽²⁾ The Google Chrome support is based on Google Chrome Version 67. Due to frequent version upgrades of Google Chrome, compatibility of NaturalONE with future versions of Google Chrome

cannot be fully guaranteed. Possible incompatibilities will be removed during the regular maintenance process of NaturalONE.

Supported Natural Servers

To get the complete functionality of NaturalONE, specific Natural versions are required. For further information, see [Using an Existing Natural Development Server Environment](#).

Eclipse Prerequisites

NaturalONE is part of the Software AG Designer, which is based on Eclipse Version 4.7.3a.

If you prefer to use NaturalONE in your existing Eclipse environment, Eclipse Version 4.7.3a is required. For further information, see [Using Your Own Eclipse](#).

Java Prerequisites

On Windows, Java is automatically installed with NaturalONE when you start the Software AG Installer GUI using the `.exe` file. No further steps are required. However, when you want to start the installer using the `.jar` file instead of the `.exe` file, Oracle Java Version 1.8 must already be installed. This is required to run the installer.

On Linux, Java is not installed with NaturalONE. Oracle Java Version 1.8 is required in this case. You can download this from <http://www.oracle.com/technetwork/java/javase/downloads/index.html>.



Note: IBM Java or the GCJ Java should not be used with our products for Linux x86 and x86-64 platforms. Use only Oracle Java for our products on Linux x86 and x86-64.

Hardware Requirements

Up to 3 GB of hard disk space are required for NaturalONE (Eclipse development installation with service enabling and NaturalONE and EntireX runtimes).



Important: These hardware requirements are for NaturalONE only. They do not include any additions such as RDBMSs. You must determine the overall hardware requirements depending on your development scenario.

Recommendation for Huge Natural Applications Developed with NaturalONE

To make use of a larger amount of memory on a 64-bit operating system, you have to adapt the *eclipse.ini* file in the installation directory of the Software AG Designer (*<your-installation-directory>/Designer/eclipse/eclipse.ini*). Because the required amount of memory is application-dependent, it is not possible to give definite recommendations on how the parameters in this file should be set. Getting the appropriate values is an iterative process.

A good starting point for your own configuration tests are the following parameter values in the *eclipse.ini* file:

```
--launcher.XXMaxPermSize  
512m  
-Xmx2048m
```

`XXMaxPermSize` is used for static data. A value of 512 MB should be a sufficient setting.

You may change the `Xmx` parameter which specifies the maximum amount of memory that the Java runtime is able to get. With the value in the above example, you allocate 2048 MB.

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Installation Directory

During the installation, you are asked to specify an installation directory. Specify the installation directory in which to install your Software AG products. If you are installing NaturalONE on Linux, the user that you are using to install must have full read and write permissions to this directory.



Important: It is recommended that you do not install into a directory which is a subdirectory of a previous installation. Such a previous installation may have been created either with the Software AG Installer or by an installation tool that was used in the past.

Side-by-Side Installations

It is possible to install side-by-side versions of NaturalONE on one machine. In this case, you have to install each version into a separate directory.

Updating or Upgrading NaturalONE

As of NaturalONE Version 8.3.2, it is no longer possible to install a new version into the directory which contains a previous version. Now it is only possible to do side-by-side installations where each version is installed into a separate directory.

For each new version of NaturalONE, you have to use a different workspace. You must not use the workspace of a previous NaturalONE installation.

After a new version of NaturalONE has been installed, you have to import your Natural projects from the NaturalONE workspace of the previous version into the NaturalONE workspace for the new version. In case you also make use of non-Software AG plug-ins, you have to reinstall these plug-ins in Eclipse (via **Help > Install New Software**).



Important: When importing your old projects to the new workspace, make sure to enable the **Copy projects into workspace** option.

Installing EntireX with NaturalONE

NaturalONE's Service Development functionality requires EntireX. If you plan to install EntireX together with NaturalONE, read the information on EntireX in the *Installing webMethods Products* guide before you start the NaturalONE installation. There you will find important information on topics such as sudo authentication. The most up-to-date version of *Installing webMethods Products* is always available at <http://documentation.softwareag.com/> (Empower login required).

Online Help on Linux

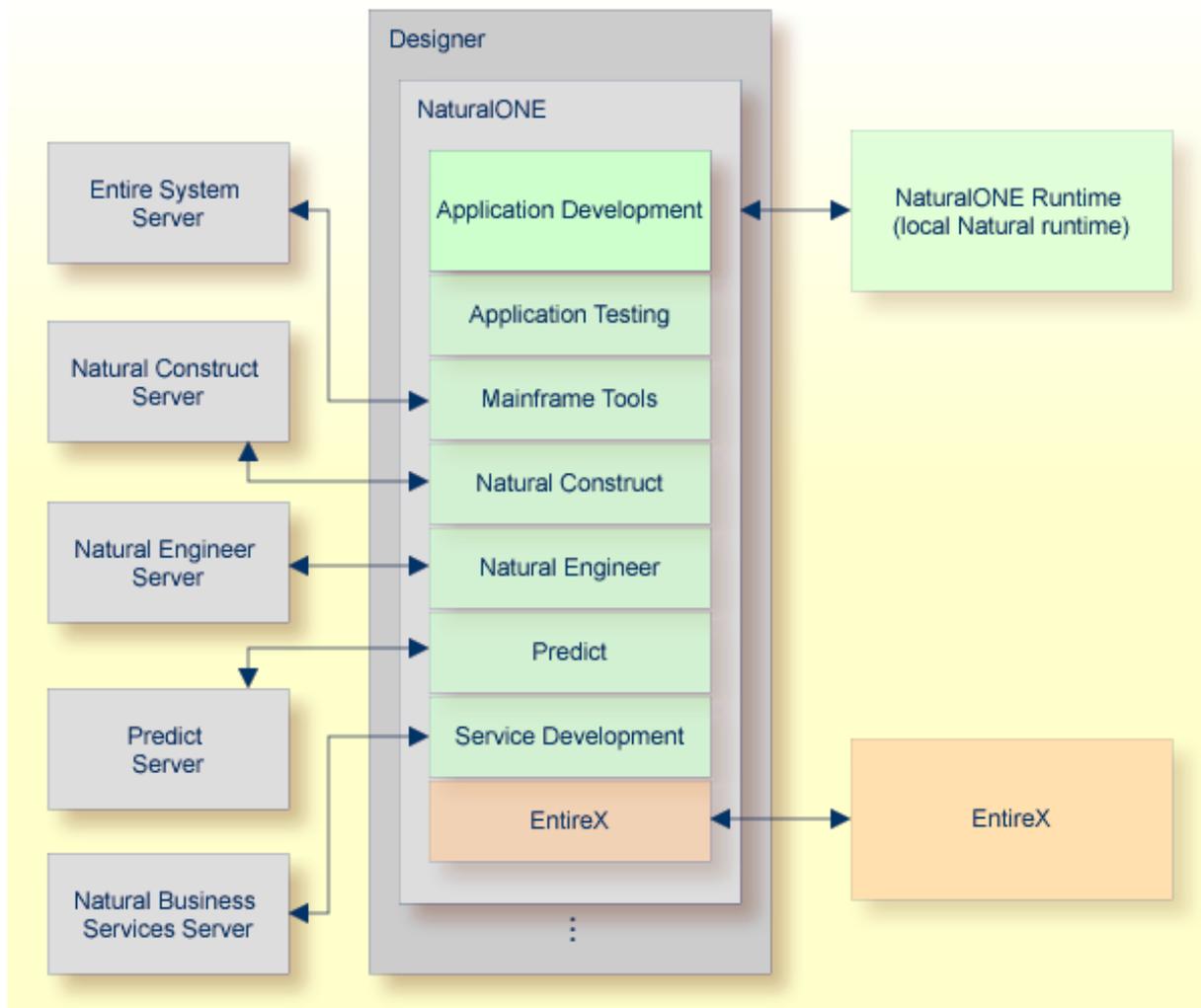
In order to display the NaturalONE online help in Eclipse, it is required to set the Linux environment variable `no_proxy` in `/etc/sysconfig/proxy` to "localhost".

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Typical Development Installation

NaturalONE is part of the Software AG Designer. The following graphic shows the NaturalONE components that can be installed with NaturalONE. The Application Development functionality is mandatory; NaturalONE cannot be installed without this. The other components are optional. Some of the optional components require that additional software is installed on a server. See also *What is NaturalONE?* in the *Introduction*.



Installing NaturalONE Using the Software AG Installer GUI

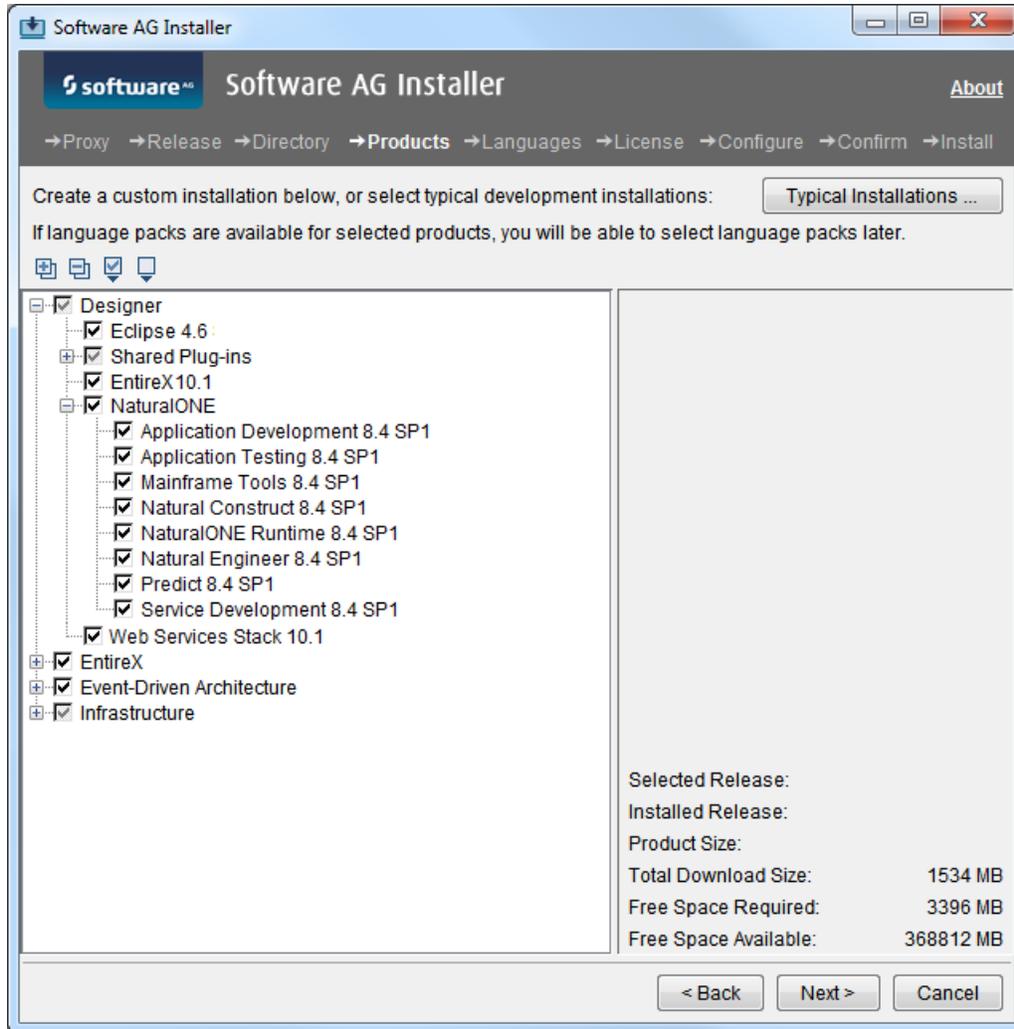
This installation documentation provides just a brief description on how to install NaturalONE directly on the target machine using the Software AG Installer GUI. For detailed information on the Software AG Installer, see *Using the Software AG Installer*.

➤ To install NaturalONE

Software AG provides a license file for NaturalONE; the installer requires it during installation. Copy the license file to the machine on which you want to install NaturalONE. You can copy it to any temporary location. The installer will ask for the location of your license file and will then copy it to the *common/conf* directory of your installation directory.

- 1 Start the Software AG Installer GUI as described in *Using the Software AG Installer*.
- 2 When the first page of the Software AG Installer GUI (the so-called Welcome panel) is shown, choose the **Next** button repeatedly (and specify all required information on the shown panels as described in *Using the Software AG Installer*) until the panel containing the product selection tree appears. This tree lists the products you have licensed and which can be installed on the operating system of the machine on which you are installing.
- 3 To install the full functionality of NaturalONE, expand the **Designer** node and select **NaturalONE**.

All required items are automatically selected. This corresponds to the **NaturalONE Application Development with Service enabling** typical installation (see the description below).



Or:

Expand **Designer** > **NaturalONE** and select the product components that you want to install.

Application Development is always required. NaturalONE cannot be installed without this item. It contains the core functionality of NaturalONE which consists of the basic functionality for Natural application development plus the possibility to create rich internet applications that use the Ajax technology. All other items under **Designer** > **NaturalONE** are optional components for NaturalONE. See also *What is NaturalONE?* in the *Introduction*.

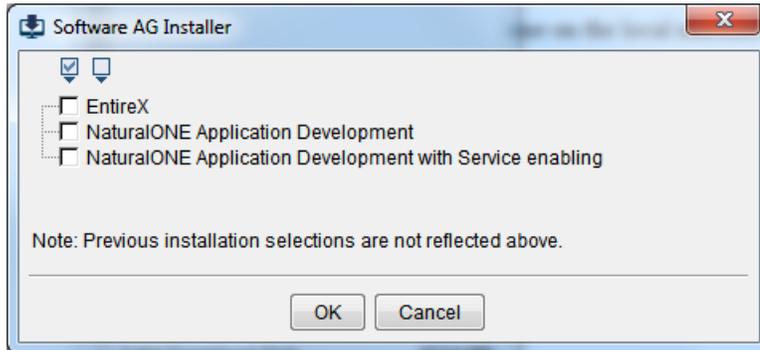
NaturalONE Runtime installs the integrated NaturalONE runtime environment (which is also referred to as the "local Natural runtime"). If you want to use an already installed Natural runtime on the local machine or on a remote machine, you can deselect the NaturalONE runtime. See also *Using an Existing Natural Development Server Environment*.

A Software AG-supplied Eclipse and a number of shared plug-ins are always installed with NaturalONE.

Other items in the tree (such as EntireX) are only required for service development. They are automatically selected when **Service Development** and/or **Application Testing** is selected.

Or:

Choose the **Typical Installations** button to display the following dialog box.



Select one of the following and choose the **OK** button:

- **NaturalONE Application Development**

This installs the following, in addition to the Application Development core functionality:

- Mainframe Tools
- Natural Construct
- NaturalONE Runtime
- Natural Engineer
- Predict

- **NaturalONE Application Development with Service enabling**

This installs the following, in addition to the Application Development core functionality:

- Application Testing
- Mainframe Tools
- Natural Construct
- NaturalONE Runtime
- Natural Engineer
- Predict
- Service Development
- EntireX and many other items which are required by EntireX



Note: For NaturalONE, it is not required that you select EntireX in this dialog box.

EntireX is automatically installed with the Application Testing or Service Development component of NaturalONE.

4 Choose the **Next** button.

- 5 Read the license agreement, select the check box to agree to the terms of the license agreement, and choose the **Next** button.
- 6 Enter the full path to the NaturalONE license file (or use the **Browse** button to select it from a dialog box), and choose the **Next** button.
- 7 When a NaturalONE component was selected which requires service-enabling, a panel for Platform Manager appears. Platform Manager is an agent that allows remote administration of one or more selected products in this installation from Command Central. Select **Install as Service** if you plan to use this capability, otherwise select **Install as Application** in order to conserve system resources.
- 8 When EntireX was selected, additional panels appear. For detailed information on these panels, see the *Installing webMethods Products* guide. The most up-to-date version of this guide is always available at <http://documentation.softwareag.com/> (Empower login required).
- 9 On the last panel, review the items you have selected for installation. If the list is correct, choose the **Next** button to start the installation process.

Completing the Installation

After NaturalONE has been installed, you can start it as described in *Starting NaturalONE* which is part of *Using NaturalONE*. NaturalONE's core functionality can be used without further configuration. Additional configuration steps, however, are required in the following cases:

- You want to use an Eclipse other than the Software AG-installed Eclipse. See [Using Your Own Eclipse](#).
- You installed a complete development installation, with or without the NaturalONE runtime, and you also want to use an existing Natural Development Server (NDV). See [Using an Existing Natural Development Server Environment](#).
- You installed the Mainframe Tools component. This component includes Mainframe Navigation, which requires an Entire System Server environment. See *Installation and Configuration* in the *Mainframe Navigation* documentation.
- You installed the Natural Construct component, which requires a Natural Construct server environment. See *Requirements* in the *Using Natural Construct* section of the *Code Generation* documentation.
- You installed the Natural Engineer component, which requires a Natural Engineer server environment. See *Setting Up a Natural Engineer Environment* in the *Natural Engineer* documentation.
- You installed the Predict component, which requires a Predict server environment. See *Setting Up a Predict Environment* in the *Predict Description and Generation* documentation.
- You installed the Service Development component, which requires a Natural Business Services server environment. See *Prerequisites* in the *Business Services* documentation.

- You installed a complete development installation with service-enabling, but you did not install EntireX because you want to use an existing EntireX on the local or a remote machine. See [Using an EntireX RPC Environment](#).

Uninstalling NaturalONE

You uninstall NaturalONE using the Software AG Uninstaller. For information on how to use the uninstaller, see the *Using the Software AG Installer* guide.

5 Using Your Own Eclipse

The easiest and recommended way to install NaturalONE is to make use of the Software AG Installer. However, you may prefer to make use of your already existing Eclipse environment. In this case, specific versions of Eclipse and Java are required. See [Eclipse Prerequisites](#) and [Java Prerequisites](#) and in the section *System Requirements*.

If you want to use NaturalONE in your existing Eclipse environment, you need the NaturalONE Eclipse plug-ins. To get them, it is required that you do a regular installation using the Software AG Installer first. When the installation has completed, you will find the required plug-ins in the installation directory of the Software AG Designer. They are stored in `<your-installation-directory>/Designer/updates`. Now, you have to proceed as follows:

1. Install all NaturalONE plug-ins in your own Eclipse.

You have to install the plug-ins in the following order:

- a. `com.softwareag.common.zip` ^{See Note 1.}
- b. `com.softwareag.lic.utils.zip` ^{See Note 2.}
- c. `com.softwareag.cis.ide-91.zip`
- d. `com.softwareag.naturalone.natural.ide-one91.zip`

When the above plug-ins are installed, you can install the other NaturalONE plug-ins in any order you like.

2. Copy the file `naturalone.properties` from the `/Designer/updates` folder of the Software AG Designer installation to the folder of your Eclipse installation which contains the file `eclipse.exe`. Normally, this is the root folder of the Eclipse installation.

You can now use NaturalONE from within your own Eclipse environment.



Notes:

1. *com.softwareag.common.zip* is not signed. Therefore you will see a warning dialog. Choose **Install anyway** on this dialog.
2. During installation on the very first **Available Software** dialog, deselect the item **Group items by category**. This action is only required for this plug-in.

6 Using an Existing Natural Development Server Environment

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Prerequisites

If you prefer to use your own Natural Development Server (NDV) environment instead of the local Natural runtime that is installed with NaturalONE, it is recommended that you upgrade your Natural Development Server environment to the versions listed below. Only with these versions, you will get the complete functionality of NaturalONE.

The recommended versions are:

■ Mainframe

Use one of the following combinations:

- Natural Version 8.2.7 and cumulative fix 6.

Natural Security Version 8.2.7 and cumulative fix 6.

Natural Development Server Version 8.2.7.3 with the Natural Web I/O Interface.

- Alternatively, use Natural Version 9.1.1, Natural Security Version 9.1.1 and Natural Development Server Version 9.1.1.



Important: When Natural Development Server runs on a mainframe, Unicode and code page support must be enabled (with the Natural profile parameters `CFICU` and `CP`).

■ UNIX or Windows

- Natural Version 9.1.1.
- Natural Security Version 9.1.1.
- Natural Development Server Version 9.1.1 with the Natural Web I/O Interface.

■ Servlet Container

- Natural for Ajax Version 9.1.1 on Apache Tomcat 9.



Note: Apache Tomcat is required by Ajax Developer. Execution and debugging of rich internet applications, however, can be done with any application server or servlet container on which Natural for Ajax is running.

If the above mentioned Natural or Natural Development Server versions are not installed in your environment, specific Eclipse functionality does not work. However, NaturalONE as such can be used.

Startup Transactions

When a NaturalONE client connects to a Natural server, any startup transaction program executed on the server must meet the following conditions:

- It must not perform any screen I/Os.
- It must be executed only once (that is, the Natural system variable *STARTUP must be reset to blank within the startup transaction).
- It must terminate properly.

You have to check the source code of each startup transaction in question and, if necessary, change it to meet these conditions.

If you adjust the relevant source-code sections within a startup transaction - in dependency of the client type - you can use the Natural application programming interface (API) USR4218N in the library SYSEXT. This API has to be invoked from within the startup transaction and provides you with the client type.

Natural Security

When Natural Security is active in your Natural server environment, several actions in the **Natural Server** view and in the **Navigator** view (such as upload and download) are controlled by Natural Security. A utility profile for SYSMAIN is then required in Natural Security which has the appropriate settings. For detailed information, see *Protecting the Natural Development Environment in Eclipse* in the Natural Security documentation, which is part of the Natural documentation.

If the Natural Security settings are not appropriate, you may not be able, for example, to add projects from the Natural server to the NaturalONE workspace.

Library Statistical Records on Mainframes

In order to reduce the number of Adabas calls and to improve the performance, it is highly recommended that you create a so-called "library statistical record" for every Natural library on the mainframe. This ensures that data which is often used is kept persistently. Thus, when using NaturalONE, there is no need to retrieve this specific information many times. To initialize the statistical records, you have to invoke the program NDVCSTAR which is available on the mainframe. For further information, see *SPoD-Specific Limitations and Considerations* in the Natural Development Server documentation for the appropriate platform.

Database Access

You can access Adabas databases when they are on the same PC as your NaturalONE installation.

However, in order to access remote Adabas database systems, Entire Net-Work is required. Currently, you have to configure your environment accordingly. For remote access to Adabas 6 (Open Systems) or Adabas 8 (Mainframe), Entire Net-Work 7.3.2 or above is required.

7

Using an EntireX RPC Environment

EntireX is required if you want to develop Natural business services and RPC clients with NaturalONE. This is supported by the optional EntireX and Business Services components of NaturalONE. This is sufficient for testing RPC clients for Natural subprograms. Testing Natural Business Services clients, however, requires an additional Natural Business Services installation as described under *Prerequisites* in the *Business Services* documentation.

If you prefer to use a different EntireX RPC environment (Broker and Natural RPC server) instead of the one that is installed with NaturalONE, specify this as follows for those components for which you need a custom EntireX RPC environment:

- **RPC Environments Preferences**

On the **RPC Environments** page of the EntireX preferences, add your custom RPC environment to the list of predefined RPC environments (**Window > Preferences > Software AG > EntireX > RPC Environments**).

- **EntireX Natural Wrapper**

In the EntireX Natural Wrapper wizard (**Generate Natural from Software AG IDL** command in the context menu of an IDL file), choose either an RPC environment from the list defined on the **RPC Environments** preference page, or create a new RPC environment definition (which is then added to the list on the **RPC Environments** preference page).

- **EntireX IDL Extractor for Natural**

In the IDL Extractor for Natural wizard (which is started with **New > Other > Software AG > EntireX > IDL Extractor for Natural**), choose either an RPC environment from the list defined on the **RPC Environments** preference page, or create a new RPC environment definition (which is then added to the list on the **RPC Environments** preference page).

- **Natural Subprogram Tester**

If you run the Natural subprogram tester on a Natural subprogram (**Testing > Test Subprogram** command in the context menu of the NSN file), specify your Broker ID and server address on the **Connection** tab of the tester user interface.

■ **EntireX IDL Tester**

If you run the IDL tester on an IDL file (**Test Software AG IDL** command in the context menu of the IDL file), specify your custom Broker ID and server address in the tester user interface.

■ **General EntireX IDL Preferences**

On the **EntireX** preference page, define your custom Broker ID and RPC server address that is to be used as the default RPC environment with the EntireX wrappers (**Window > Preferences > Software AG > EntireX**).

■ **IDL File Properties**

In the properties of an IDL file (**Properties** command in the context menu of the IDL file), specify your custom Broker ID and RPC server address that is to be used by the EntireX Wrappers for this IDL file. You do this in the general **EntireX** section and in the **EntireX Web Service Wrapper** section (on the **Mapping** tab).

■ **WS-Stack Configuration Editor**

In the WS-stack configuration editor, configure an EntireX web service (AAR file) to use your custom Broker ID and RPC server. To do so, open the web service archive (*.aar*) and on the **EntireX Settings** tab, specify your custom Broker ID and RPC server address to be used. Save the modified *.aar* file and redeploy it.

See also *EntireX Workbench* which is part of the EntireX documentation.