

Natural Engineer Web Interface

Installation and Configuration Guide

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This document applies to Natural Engineer version 8.3 and to all subsequent releases.

Specifications contained herein are subject to change, and these changes will be reported in subsequent revisions or editions.

Readers' comments are welcomed. Comments may be addressed to the Documentation Department at the address on the back cover. Internet users may send comments to the following e-mail address:

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ABOUT THIS MANUAL

Purpose of this manual

This manual contains the Installation details for the Natural Engineer Web Interface (NEA).

It describes all aspects of installing Natural Engineer Web Interface on all supported platforms.

This manual should be read carefully before installing and using the product.

Target Audience

The target audience for this manual is intended to be any User of Natural Engineer Web Interface as well as Systems Administrators responsible for installing and configuring the product.

Typographical Conventions used in this manual

The following conventions are used throughout this manual:

UPPERCASE TIMES	Commands, statements, names of programs and utilities referred to in text paragraphs appear in normal (Times) uppercase.
UPPERCASE BOLD COURIER	In illustrations or examples of commands, items in uppercase bold courier must be typed in as they appear.
< >	Items in angled brackets are placeholders for user-supplied information. For example, if asked to enter <file number>, you must type the number of the required file.
<u>Underlined</u>	Underlined parts of text are hyperlinks to other parts within the online source manual. This manual was written in MS-Word 97 using the “hyperlink” feature.

The following symbols are used for instructions:

⇒	Marks the beginning of an instruction set.
□	Indicates that the instruction set consists of a single step.
1.	Indicates the first of a number of steps.

How this manual is organized

This manual is organized in the following chapters:

Chapter	Contents
1	Describes how to install and customize Natural Engineer Web Interface (NEA).

Terminology

This section offers some of the terms that are specific to the Natural Engineer product.

Note: Familiarity is assumed with the general terminology of Natural, Adabas, Microsoft and Mainframe operating systems.

Analysis

The Analysis process of Natural Engineer searches application data within the Natural Engineer Repository, according to specified Search Criteria and generates reports on the search results.

Application

An Application is a library or group of related libraries, which define a complete Application. In Natural Engineer, the Application can have a one-to-one relationship with a single library of the same name, or a library of a different name, as well as related steplibs. The Application refers to all the source code from these libraries, which Natural Engineer loads into the Repository.

Browser

An Internet Browser such as Microsoft Internet Explorer or Netscape.

Category

Categories in Natural Engineer specify whether and how a Modification is applied to the Natural code. Valid categories are: Automatic change, Manual change, Reject the default Modification, No change to the data item, and the data item is in Generated Code.

A category is further broken down according to type of change (for example: Keyword, Literal, Data Item, Database Access, Definition).

Cobol

Abbreviation of Common Business Orientated Language. A programming language.

Cobol Link

A Cobol Link is the link between the individual Cobol modules and the executable Cobol program referenced in the JCL object.

Consistency

An option in the Analysis process that causes Natural Engineer to trace an Impact through the code, using left and right argument resolution to identify further code impacted by the code found.

Database Access Definition

A collective term used to identify DDMs, SQL Tables or Predict User Views.

About this manual

Data Item

A collective term used for any data fields within a programming object. These can be user-defined variables, DDM fields or System Variables. It is inter-changeable with the term 'variable'.

Environment

The Environment process is the means by which Natural Engineer generates a structured view of the application code in the Natural Engineer Repository. This provides application analysis reports and inventory information on the application and is used as the basis for Impact Analysis.

Exception

An Exception is an Item identified as impacted that does not require a Modification. Where there are a few similar Exception Items, they can be treated as Exceptions, and rejected in the Modification review process. Where there are many similar (therefore not Exceptions), consideration should be given to changing the Search Criteria so they are not identified as impacted in the first place.

Generated Code

This is code which has been generated by a Natural code generator, such as Construct, and which is not normally modified directly in the Natural editor.

Impact

An Impact is an instance of a Natural code Item; e.g., data item or statement (a "hit" scored by the Analysis process) that matches the defined Search Criteria used in the Analysis process.

Iteration

An Iteration is one examination cycle of a field identified according to the specified Search Criteria. For example, one Iteration is reading the field right to left. Multiple Iterations are performed when the option of 'Consistency' or Multi Search is requested for Analysis, and Natural Engineer performs as many Iterations as necessary to exhaust all possibilities of expressing and tracing the field, and can be limited by a setting in the NATENG.INI file.

JCL

Job Control Language.

JCL object

A JCL object is a collection of Job Control statements in the order which they are to be executed in a mainframe batch environment. Commonly referred to as JCL.

Library

A single library of source code, which exists in the Natural system file.

Modification

A Modification is a change suggested or made to an object or data item resulting in the required compliance of that object or data item. Modifications in Natural Engineer are classified according to Category and Type.

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Refactoring

Improving a computer program by reorganizing its internal structure without altering its external behavior.

Soft Link

A Soft Link is where a link between two objects has been defined using an alphanumeric variable rather than a literal constant.

TLM

Text Logic Members are used to contain the code required to support inclusion of common code into the application. An example of this is the code to include into an application before updating a database.

Type

The Type of Modification available, for example: Data Item, Keyword and Literal.

Variable

A collective term used for any data fields within a programming object. These can be user-defined variables, DDM fields or System Variables. It is inter-changeable with the term 'data item'.

Related Literature

The complete set of Natural Engineer manuals consists of:

1 Natural Engineer Concepts and Facilities (NEE83-006ALL)

The Concepts and Facilities manual describes the many application systems problems and solutions offered by Natural Engineer, providing some guidelines and usage that can be applied to Natural applications.

2 Natural Engineer Release Notes (NEE83-008ALL)

The Release Notes describe all the information relating to the new features, upgrades to existing functions and documentation updates that have been applied to Natural Engineer.

**3 Natural Engineer Installation Guide for Windows (NEE83-010WIN)
Natural Engineer Installation Guide for Mainframes(NEE83-010MFR)
Natural Engineer Installation Guide for Unix (NEE83-010UNIX)**

The Installation Guide provides information on how to install Natural Engineer on PC, Unix and mainframe platforms.

**4 Natural Engineer Administration Guide (NEE83-040WIN)
Natural Engineer Administration Guide (NEE83-040MFR)**

The Administration Guide provides information on all the various control settings available to control the usage of the different functions within Natural Engineer.

**5 Natural Engineer Application Management (NEE83-020WIN)
Natural Engineer Application Management (NEE83-020MFR)**

The Application Management manual describes all the functions required to add Natural applications into the Repository.

**6 Natural Engineer Application Documentation (NEE83-022WIN)
Natural Engineer Application Documentation (NEE83-022MFR)**

The Application Documentation manual describes all the available functions to document a Natural application within the Repository. These functions will help enhance / supplement any existing systems documentation such as BSD / CSD / Specifications etc.

**7 Natural Engineer Application Analysis and Modification (NEE83-023WIN)
Natural Engineer Application Analysis and Modification (NEE83-023MFR)**

The Application Analysis and Modification manual describes all the available functions to carry out analysis of Natural applications; including basic keyword searches. The modification process is described and detailed to show how it can be applied to modify single selected objects within a Natural application, or the entire Natural application in one single execution.

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- 8 Natural Engineer Application Restructuring (NEE83-024WIN)**
Natural Engineer Application Restructuring (NEE83-024MFR)

The Application Restructuring manual describes the analysis and modification functionality required to carryout some of the more sophisticated functions such as Object Builder.

- 9 Natural Engineer Utilities (NEE83-080WIN)**
Natural Engineer Utilities (NEE83-080MFR)

The Utilities manual describes all the available utilities found within Natural Engineer and, when and how they should be used.

- 10 Natural Engineer Reporting (NEE83-025ALL)**

The Reporting manual describes each of the reports available in detail, providing report layouts, how to trigger the report and when the report data becomes available. The various report-producing mediums within Natural Engineer are also described.

- 11 Natural Engineer Batch Processing [Mainframes] (NEE83-026MFR)**

The Batch Processing manual describes the various batch jobs (JCL) and their functionality.

- 12 Natural Engineer Messages and Codes (NEE83-060ALL)**

The Messages and Codes manual describes the various messages and codes produced by Natural Engineer.

- 13 Natural Engineer Web Interface Installation and Configuration Guide(NEA83-010ALL)**

The Web Interface Installation and Configuration Guide provides information on how to install and configure the Natural Engineer Web Interface.

- 14 Natural Engineer Advanced Services (NEE83-017WIN)**

The Advanced Services manual describes various advanced options such as the Refactoring of Natural application source code with Natural Engineer, conversion of applications for Natural for Ajax and Business Rule processing.

NATURAL ENGINEER WEB INTERFACE

Chapter Overview

This chapter describes some additional installation process and options to use the Natural Engineer Web Interface (NEEGUI) with Natural Engineer (NEE).

The Natural Engineer Web Interface is a web based application that accesses the Natural Engineer repository via additional Natural programs.

Two installation options are available, multi user install where clients access a common NEE repository or a single user install where the NEE repository is on the client machine. A multi user environment uses a web server (IIS or Apache) and can use either EntireX or NAS to execute the NEE Natural objects.

The topics covered are:

- 1. Installation**
- 2. Post Installation Configuration**

Describes the post installation configuration tasks required to the Natural components of the NEA Installation.
- 3. Installation of NEA Server**
- 4. ENTIREX Configuration**
- 5. Web Server Backend**
- 6. Additional Information**

Installation

The Natural Engineer Web Interface is automatically installed when the main Natural Engineer product is installed. This is performed using the SAG Installer. For further information on installing the main Natural Engineer product please see the relevant Natural Engineer Installation Guide.

There are two versions of the Natural Engineer Web Interface provided. A Silverlight version which is provided in the IIE subdirectory of the main Natural Engineer Web Installation directory and an HTML5 version which is provided in the NEA subdirectory.

The Silverlight version is provided for existing users who already have a Silverlight installation however it should be noted that this version will be phased out in the next release. It is recommended that the HTML5 version is used especially if you are using Google Chrome as your preferred browser. If you are using Google Chrome then a Webserver should also be used.

The configuration options are applicable to both versions unless specified otherwise.

Post Installation Configuration

This section describes the post installation configuration tasks that are required to the Natural components of the NEA installation. This is applicable to both single and multi-user modes. The Natural Objects to run the Natural Engineer Web Interface will have been loaded into the SYSNEEI library during the normal Natural Engineer Installation.

Initialization Routines

There are three supplied initialization routines in SYSNEEI library: INIMF-NX, INIPC-NX and INIUX-NX. If this is a new installation, rename these objects to INIMF-N, INIPC-N and INIUX-N respectively and amend the entries to match your environment. If this is an existing installation, check parameters in INIMF-NX, INIPC-NX and INIUX-NX and see if they need transferring to existing objects.

If running on a mainframe environment any Application Properties that are set within Natural Engineer for COBOL and JCL directory locations will override the SOURCE-DIR, COPY-DIR and MAP-DIR settings within the initialization routine.

Settings

Group Header / Parameter	Description
##COBOL-SECTION	
SOURCE-DIR	The full directory name where the COBOL Source members are located.
SOURCE-EXTNS	The suffixes of the COBOL Source members. Default = ,COB,CBL,CCP NB: The initial , (comma) means also check for members with no suffix.
COPY-DIR	The full directory name where the COBOL Copycode members are located.

Group Header / Parameter	Description
COPY-EXTNS	The suffixes of the COBOL Copycode members. Default = ,CPY, COP NB: The initial , (comma) means also check for members with no suffix.
MAP-DIR	The full directory name where the COBOL Map members are located.
MAP-EXTNS	The suffixes of the COBOL Map members. Default = ,BMS NB: The initial , (comma) means also check for members with no suffix.
NB: COBOL only applicable to PC (INIPC-N) and Mainframe(INIMF-N)	
##JCL-SECTION	
SOURCE-DIR	The full directory name where the JCL Source members are located.
SOURCE-EXTNS	The suffixes of the JCL Source members. Default = ,JCL NB: The initial , (comma) means also check for members with no suffix.
COPY-DIR	The full directory name where the JCL Copycode members are located.
COPY-EXTNS	The suffixes of the JCL Copycode members. Default = ,PRC NB: The initial , (comma) means also check for members with no suffix.
PROCLIB-DIR	The full directory name where the JCL Procedures are located.
PROCLIB-EXTNS	The suffixes of the JCL Procedures. Default = ,PRC NB: The initial , (comma) means also check for members with no suffix.
NB: JCL only applicable to PC (INIPC-N) and Mainframe(INIMF-N)	

##APPS-SECTION

XAPPS

List of Applications to be excluded from being shown.

Applications to be excluded are specified delimited by a comma'

Default = ' '

NCST

Show Natural Construct generated modules i.e., those prefixed CC*, CD*.

Default = 'Y'

Valid values = 'Y', 'N'

OBJ-GROUP-MAX

Maximum number of objects to be shown per Object group.

Default = '1000'

OBJ-COMMENTS

Show Object Comments when hovering.

Default = 'Y'

Valid values = 'Y', 'N'

XREF-LEVEL-MAX

The amount of levels to drill down to for showAppMapXref and showAppXref functions.

CODEPAGE

The name of the codepage to be used.

Default = ' '

Valid values = '*codepagename*', SYSTEM, ON

'codepagename' = use specified codepage source but source codepage overrides.

SYSTEM = use *CODEPAGE setting to encode all source but source codepage overrides *CODEPAGE.

ON = only encode any source with a codepage set.

NB: This is used in conjunction with the settings in the mainframe Natural Parameter module.

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SECURITY

Will restrict access to applications based on userid.

Default = ‘ ‘

Valid values = NSC, Y, “ “

NSC = The userid will be checked against Natural Security(if present) to determine the level of access to the application.

Y = The userid will be checked against the Natural Engineer Security User Exit (NEEUEX6 in SYSNEE) to determine the level of access to the application.

“ “= No Security checking will be undertaken.

##RPC-SECTION

BUFSIZE

The Buffer size for RPC.

Default = ' ' (will be set internally to 30K)

##TRACE-SECTION

TRACE

Internal debug setting to set Tracing on.

Default = ' '

Valid values = 'Y' , ' '

Only to be used when requested by Support personnel.

FILE

Internal debug setting to specify location of Trace file.

Only to be used when requested by Support personnel.

LEVEL

Internal debug setting to specify Trace Level.

Only to be used when requested by Support personnel.

##REQUESTS-SECTION

LISTLITERALLIMIT

Limits the amount of records retrieved by the LIST LITERALS Report.

Default = '5000'

LISTMAPSHOWMESSAGESAUTO

If set to 'Y' any REINPUT type messages will automatically be shown when a map is displayed. If set to 'N' the identification of these messages will be controlled by a button.

Default = 'N'.

##WEB-SECTION

ADMINUSER

Determines if user has the authority to delete Web Cache requests.

If http_user from web server matches adminuser value, the deletion options for the List Web Cache screen are shown.

Note: To simulate, if http_user not set, place USER=user in CONFIG.JS.

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Natural Parameter Modules

If this is a new installation you will need to create a Natural Parameter module for the NEA interface. The following steps should be followed to achieve this.

1. Using the Natural Configuration utility save a copy of the NEEPARM parameter file as NEEGUI
2. Modify the NEEGUI parameter module as follows:
 - i. Natural Execution Configuration - System Variables
 1. Check the Automatic logon checkbox.
 2. Change the startup library (INIT-LIB) to be SYSNEEI.
 3. Remove the Startup program (STARTUP).
 4. Add SYSNEE to the steplib list.
 5. Move SYSNEE to the top of the steplib list.
 6. Remove all work file entries.
 7. If using codepages set Regional Settings
 - CP= codepagename.
 - CPCVERR=OFF.
3. Save the parameter file NEEGUI.

Mainframe Natural Parameter Module

- i. Natural Execution Configuration – Regional Settings (if using codepages)
 1. CFICU=ON
 2. CP= *codepagename*.
 3. CPCVERR=OFF.

If using codepages then the CODEPAGE setting in the mainframe initialization routine (INIMF-N) will need to be set also.

NEA Server (NAS) Installation

This section describes the installation of the NEA Server (NAS). This is used if the Natural Engineer Web Interface is running in local mode (on one PC) or may be used in multi-user mode with a web-server instead of EntireX.

Windows

1. Update NAS.INI file to match your directory structure used, default for local mode is

C: \Natural Engineer\NEA

If using Natural Security

```
[NEE]
NATLIB=SYSNEEI,userid,password
```

Where *userid* and *password* are the userid and password defined to Natural Security for the NEA Server.

With Natural Security (either AUTO=ON or AUTO=OFF) ensure that SYSNEE is a STEPLIB for library SYSNEEI. It is recommended to make SYSNEE and SYSNEEI libraries not protected.

2. NEA uses port number 19999 by default, (PORT= setting in [NAS] section of the NAS.INI). If you need to change this then you must also change the CONFIG.js file in the 'C:\Natural Engineer\NEA\xxx\config' subdirectory.

NOTE: Where xxx is IIE if you are using the Silverlight version or NEA if you are using the HTML5 version.

3. Update NATURAL.BAT file to match your Natural environment. This will include the name of the directory Natural executes from and the NATPARM module created (default NEEGUI).
4. Start NAS.EXE and a command window will appear.

NB: If you are running in a Windows 7 environment then you will need to ensure that the NAS.EXE is "Run as Administrator".

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5. Execution

If you are running the Silverlight version start the Web Interface by executing C:\Natural Engineer\NEA\IIE\iie.html

If you are running the HTML5 version start the Web Interface by executing C:\Natural Engineer\NEA\NEA\NEA.html

Mainframe (z/OS)

On the NEEvrs.JOBS dataset you will find a member called NEASERV which contains a sample for running the Natural Engineer Access (NEA) server. It references two members from the NEEvrs.SRCE dataset:

- NEAPARM
 - Contains parameters controlling Natural Sessions that will be activated by the NEA server.
- NEAINI
 - Initialization settings controlling the NEA server.

Customizing NEAPARM

Modify the NEAPARM module used for the NEA (NAS) Server as follows:

1. If you are running with Natural Security with AUTO=OFF you will need:
IM=D,AUTO=OFF
2. Set the LFILE setting for LFILE 96 to be the Natural Engineer Repository file.
3. Ensure DBCLOSE setting is set ON.

Customizing NEAINI

Modify the NEAINI module:

1. If you are running with Natural Security with AUTO=OFF you will need:
*[NEE]
NATLIB=SYSNEEI,userid,password*
2. Check the following setting points to the NEEvrs.SRCE dataset as set in your environment:
*[NAS]
WEBROOT= NEEvrs.SRCE*

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NOTE: With Natural Security (either AUTO=ON or AUTO=OFF) ensure that SYSNEE is a STEPLIB for library SYSNEEI. It is recommended to make SYSNEE and SYSNEEI libraries not protected.

It is recommended to start the NEA server as a started task as it will wait to process requests from NEE Web clients. To shutdown the NEA Server a member NEASERVC may be utilized. This is located on the NEEvrs.JOBS dataset.

NB: ADARUN needs to be linked REUS if the mainframe NEA server is to be used.

Unix

1. Update NAS.INI file to match your directory structure used, default is

`/opt/softwareag/nee/vvrs/INSTALL/NEA/NAS`

If you are using compression (the default) then the relevant ZLIB package for your Unix operating system will need to be installed. The zlib= setting in the NAS.INI needs to be set for your operating system.

NB: If the ZLIB package is installed into a non-default directory then the LIBPATH environment variable will need to be changed accordingly.

2. Update natural.sh file to match your Natural environment. This will include the name of the directory Natural executes from and the NATPARM module created (default NEEGUI).
3. Copy the relevant nas server executable for your operating system from `$NEEDIR/$NEEVERS/INSTALL/NEA/NAS/BIN/operating_system` to the same directory that the nas.ini is located in. Default is `$NEEDIR/$NEEVERS/INSTALL/NEA/NAS`
4. Start the nas server executable.

Web Server Backend

This section describes the configuration of the Web Server backend. This is only necessary if you are running the Natural Engineer Web Interface in multi-user mode. This is the recommended configuration. The user may use EntireX or a NAS server if EntireX is unavailable.

General Configuration

- 1) Copy the following files from the WEB directory to the 'scripts' directory of the web server for IIS, or 'cgi-bin' for Apache: IIE.EXE, IIE.INI

If you are using the HTML version and wish to download charts then the following file also needs to be copied to the 'scripts' directory of the web server:

C:\inetpub\wwwroot\nea\lib\jqwidgets\export\neaexport.exe

- 2) Update IIE.INI as required to match your environment

(a) If using EntireX change the following;

[NEE]

DRIVER=RPC

[RPC]

BROKER=name of broker executing:port number

SERVER=NEERPC

NATLIB=SYSNEEI

TIMEOUT=600

USERID= broker userid

PASSWORD=broker password

NB: , If no USERID/PASSWORD supplied will default to IIEUSER/IIEPASS.

SECURITY= (if set to Y set kernel security to Y in ACI calls)

If using Natural Security with EntireX configuration:

SUSERID= (userid of RPC Server jobs)

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SPASSWORD= (password of RPC Server jobs)

NOTE: With Natural Security (either AUTO=ON or AUTO=OFF) ensure that SYSNEE is a STEPLIB for library SYSNEEI. It is recommended to make SYSNEE and SYSNEEI libraries not protected.

NB: If using EntireX then the tasks in the EntireX Configuration section will also need to be followed.

b) If using NAS change the following;

[NEE]
DRIVER=NAS ,

[NAS]
HOST=IP Address or host name of the machine that NAS is running on.

If EntireX or EntireX mini runtime is not installed on the machine NAS is executing on then rename iie.exe to be iieold.exe and rename iienas.exe to be iie.exe.

c) Review the CACHE settings;
[CACHE]
CACHE=Y
DIR= C:\inetpub\wwwroot\xxx\cache

NOTE: Where xxx is IIE if you are using the Silverlight version or NEA if you are using the HTML5 version.

Setting CACHE=Y means that requests accessed via the webserver will store the results in the directory specified.

NOTE: Set the permissions to allow WRITE access for all users to this directory. Any other clients accessing the same request via the webserver will not require the request to execute again but be resolved by the webserver.

Any changes in applications loaded in the Natural Engineer repository will mean the cache files for the application must be removed to access the most up to date information.

If webserver caching is set on then the CACHE-CONTROL setting needs to be

modified to optimize client caching.

```
[ IIE ]
LAST-MODIFIED=Sat, 01 Jan 2011 09:07:04 GMT
CACHE-CONTROL=max-age=60
```

Clients can view the cache file by the option “listCache” under “Site” on the tree view. A batch process is available to list, delete and add caching entries. The modules are in the CACHE dir under NEA.

A cache.bat file is provided to execute the cache module, examples of the input parameters are contained in the top of the file.

Parameter values are listed below:

1. Option – the option required
Parameter name -opt Possible values (list, del, add)
2. Output – optional output file for messages
Optional output file for messages from the processing
3. Application – application name options
Parameter name -app Possible values (appname, appname Or * for all)
Parameter name -alvl Reports produced, values (a – application reports, o - object reports, f – field reports)
Parameter name -gbl Global reports, values (y – site reports and other object types loaded on tree view)

Examples

1. Process COBJCLNT application accessed on web server and cache object level reports and log output messages

```
cache.exe -opt add -url http://mywebsite/scripts/iie.exe -app COBJCLNT -alvl o -
out C:\temp\neacache.txt
```

2. Delete COBJCLNT cached objects

```
cache.exe -opt del -url http://mywebsite/scripts/iie.exe -app COBJCLNT
```

3. List COBJCLNT objects

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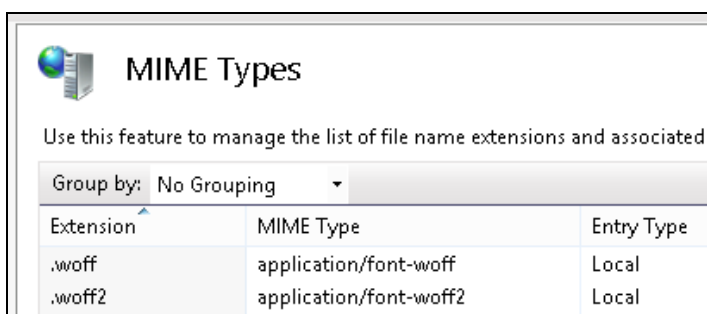
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cache.exe -opt list -url <http://mywebsite/scripts/iie.exe> -app COBJCLNT

3) MIME Types for WOFF Fonts

The following MIME types for WOFF fonts should be added

For IIS Manager



Extension	MIME Type	Entry Type
.woff	application/font-woff	Local
.woff2	application/font-woff2	Local

For Apache

Add the following to the conf/mime.types file

```
application/font-woff    woff
application/font-woff2   woff2
```

Silverlight Version Additional Configuration

If you wish to use the Silverlight version then the following additional configuration tasks need to be applied.

- 1) Copy the IIE directory to the WEBROOT directory of the webserver e.g., for IIS
c:\inetpub\wwwroot.
- 2) Change CONFIG.JS in the IIE\CONFIG sub directory (normally located in
c:\inetpub\wwwroot\iie\config\) so that the web server is selected e.g.,

```
// Web Server (default)
NAS_SERVER      = "/scripts/iie.exe";
RUN_MODE       = 'S';
```

- 3) Microsoft® Silverlight® introduces two new file extensions and thus need to add the MIME types for those file extensions to your web server so that it recognizes Silverlight® content appropriately. MIME types you need to add to the server configuration
.xaml application/xaml+xml
.xap application/x-silverlight-app
- 4) Command to execute the NEEGUI via web server is 'http://hostname/iie/iie.html'

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HTML5 Version Additional Configuration

If you wish to use the HTML5 version then the following additional configuration tasks need to be applied.

- 1) Copy the NEA directory to the WEBROOT directory of the webserver e.g., for IIS
c:\inetpub\wwwroot.
- 2) Change CONFIG.JS in the NEA\CONFIG sub directory (normally located in
c:\inetpub\wwwroot\nea\config\ so that the web server is selected e.g.,

```
// Web Server (default)
NAS_SERVER      = "/scripts/iie.exe";
RUN_MODE       = 'S';
```

- 3) Downloading Charts and Grids

If you wish to download charts and grids in the HTML5 version then the following tasks need to be performed:

- a. Using PHP

1. To capture a chart or grid requires PHP to be installed on the web server.
2. After installing PHP the config.js file must be changed to make the script available.

```
DOWNLOAD_FILE = "/nea/lib/jqwidgets/export/save-file.php";
DOWNLOAD_IMAGE = "/nea/lib/jqwidgets/export/export.php";
```

b. Using NEAEXPORT.EXE

If PHP is not available you can download grids using this option.

1. If the Apache web server is used an additional change must be made to the httpd configuration file to identify the location of the export script by adding the following, adjusting for the correct drive id.

```

325 #
326 # ScriptAlias: This controls which directories contain server scripts.
327 # ScriptAliases are essentially the same as Aliases, except that
328 # documents in the target directory are treated as applications and
329 # run by the server when requested rather than as documents sent to the
330 # client. The same rules about trailing "/" apply to ScriptAlias
331 # directives as to Alias.
332 #
333 ScriptAlias /cgi-bin/ "C:/Program Files (x86)/Apache Software Foundation/Apache2.2/cgi-bin/"
334 ScriptAlias /nea/lib/jqwidgets/export/ "C:/Program Files (x86)/Apache Software Foundation/Apache2.2/htdocs/nea/lib/jqwidgets/export/"
335
336 </IfModule>
337 <IfModule cgid_module>
338 #
339 #
340 #

```

2. If Microsoft IIS v7 is used a script map for the NEAEXPORT.EXE should be added

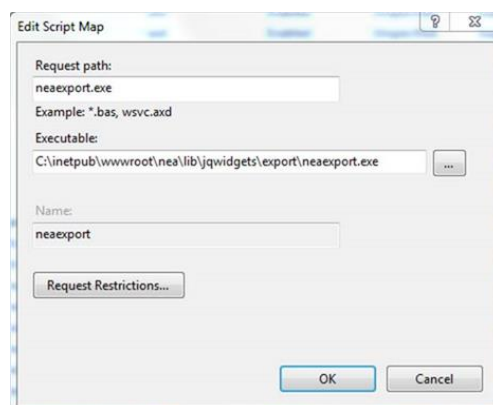
Select the default web site and then select ‘_Handler Mappings’

Select ‘_Add Script Map...’ and set

Request Path = neaexport.exe

Executable = C:\inetpub\wwwroot\nea\lib\jqwidgets\export\neaexport.exe

Name = neaexport



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Note: If you have copied neaexport.exe to the 'scripts' directory of the web server then you may specify that location in the Executable.

- 4) Command to execute the NEEGUI via web server is 'http://hostname/nea/nea.html'

EntireX Configuration

This section describes the configuration of Entire X, if required. Only if using a web server.

- 1) Add an entry to the Broker attributes file:

Typical setting:

```
DEFAULTS = SERVICE
  CONV-LIMIT           = UNLIM
  CONV-NONACT          = 20M
  LONG-BUFFER-LIMIT   = UNLIM
  NOTIFY-EOC          = YES
  SERVER-NONACT        = 5M
  SHORT-BUFFER-LIMIT  = UNLIM
  CONVERSION           = (SAGTRPC, OPTION=SUBSTITUTE)
```

```
CLASS=RPC, SERVER=NEERPC, SERVICE=CALLNAT
```

- 2) Create new NATPARM module NEERPC with the same entries as NEEGUI
- 3) Update the NEERPC module to include RPC entries, add to RPC Server tag the following: Start session as RPC server activated, Server name is NEERPC, Server node is the Broker name used.

Typical Settings:

```
DBID=200,
FNAT=(200,7),
FUSER=(200,50),
FDIC=(200,60),
LFILE=(96,200,96),
CFICU=ON,CP=AUTO,
STACK=(LOGON SYSNEEI),
STEPLIB=SYSNEE,
RPC=(SERVER=ON,RPCSIZE=256,MAXBUFF=252,SRVNAME=NEERPC,NTASKS
=(1,5),
SRVNODE=broker-name,TIMEOUT=20,TRACE=2,CPRPC=IBM01140)
```

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If the Remote Procedure Call (RPC) server is located on the mainframe (z/OS) there is a sample JCL in `NEEvrs.SRCE(NEARPC)`. This uses a member from the `NEEvrs.SRCE` dataset:

- NEARPC
 - Contains sample RPC parameters and the user should amend the following:

LFILE 96	Point to the NEE repository file.
SRVNAME	Name of Broker Service
SRVNODE	Name of Broker instance

EntireX MiniRuntime

You will need to ensure that the Web Server has access to the EntireXMiniRunTime 32 bit environment.

EntireXMiniRunTime_x32.EXE should be executed on the Web Server.

Once installed, you should copy `erx.dll` from “C:\Program Files (x86)\Common Files\Software AG” to the “scripts” directory (normally `c:\inetpub\scripts` when using IIS).

Microsoft IIS Configuration

If you are using a Microsoft IIS Webserver then the following steps will need to be performed:

1. Install CGIModule Handler Mapping

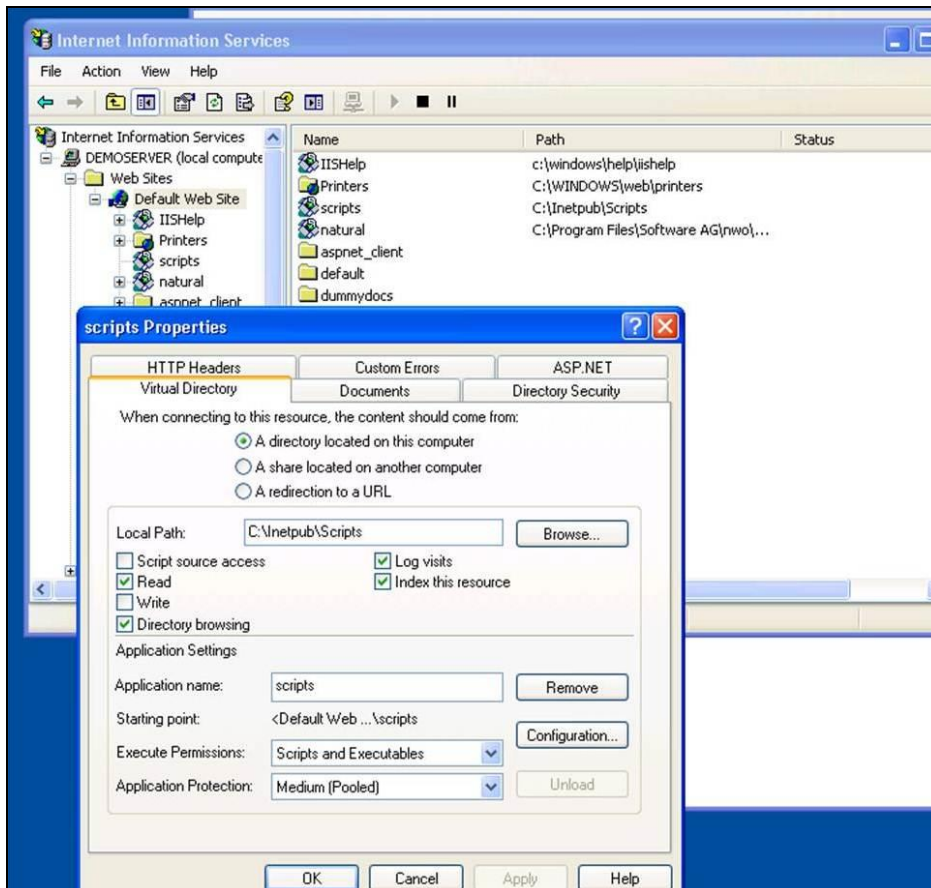
Add the Module for CgiModule for the '_Default Web Site' and ensure that it is enabled.

Note: If not present, select 'Add Managed Modules' and select 'System.Web.Handlers.ScriptModule, System.Web.Extensions' giving it a name such as CGIModule.

2. Configure Microsoft IIS directories

Add the required Active Virtual Directory for the 'Default Web Site' e.g., C:\inetpub\scripts ensuring that the Execute Permissions are set to "Scripts and Executables".

The following figure shows sample settings for Microsoft IIS v6.



3. If using IIS v7, add script map for IIE Executable

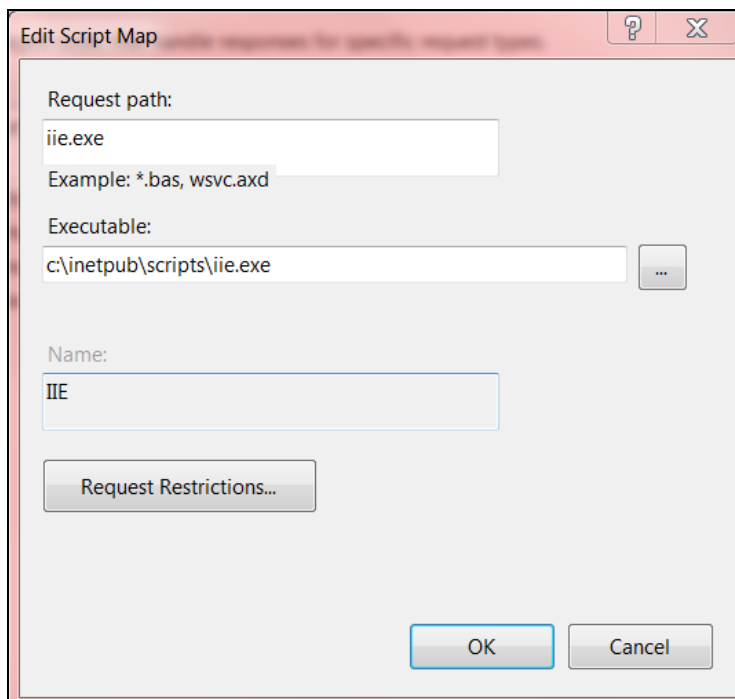
Select the default web site and then select ‘_Handler Mappings’

Select ‘_Add Script Map...’ and set

Request Path = iie.exe

Executable = C:\inetpub\scripts\iie.exe

Name = IIE



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4. If using IIS v7 and you wish to use NEAEXPORT for downloading charts and grids in the HTML5 version a script map for the NEAEXPORT.EXE should be added

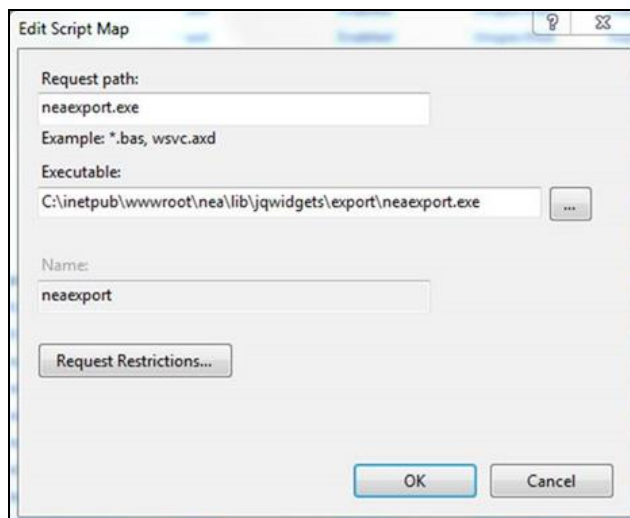
Select the default web site and then select ‘_Handler Mappings’

Select ‘_Add Script Map...’ and set

Request Path = neaexport.exe

Executable = C:\inetpub\wwwroot\nea\lib\jqwidgets\export\neaexport.exe

Name = neaexport



Note: If you have copied neaexport.exe to the 'scripts' directory of the web server then you may specify that location in the Executable.

Additional Information

This section describes any additional considerations and information pertaining to the NEA Installation.

Predict Access

- 1) If you have information in Predict you can view file and field information in NEE by connecting your FDIC file to the NEEGUI parameter module.

Execution Commands

Multi-User Mode

The following commands may be input to invoke particular functions of NEA via the web server.

Silverlight Version

Function	Command
NEEGUI	http://hostname/ie/ie.html
ONLINE Help	http://hostname/ie/help.html
Book Overview	http://hostname/ie/book.html

HTML5 Version

Function	Command
NEEGUI	http://hostname/nea/nea.html

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Single-User Mode

The following commands may be input to invoke particular functions of NEA directly on the user's machine.

Silverlight Version

Function	Command
NEEGUI	C:\Natural Engineer\NEA\IE\ie.html
ONLINE Help	C:\Natural Engineer\NEA\IE\help.html
Book Overview	C:\Natural Engineer\NEA\IE\book.html

Single-User Mode with Microsoft Internet Explorer(IE)

If you are using Microsoft Internet Explorer the following command may be input instead of the standard NEEGUI command to invoke the NEEGUI directly on the users machine using the IE application software.

Function	Command
NEEGUI	C:\Natural Engineer\NEA\IE\ie.hta

HTML5 Version

Function	Command
NEEGUI	C:\Natural Engineer\NEA\NEA\nea.html

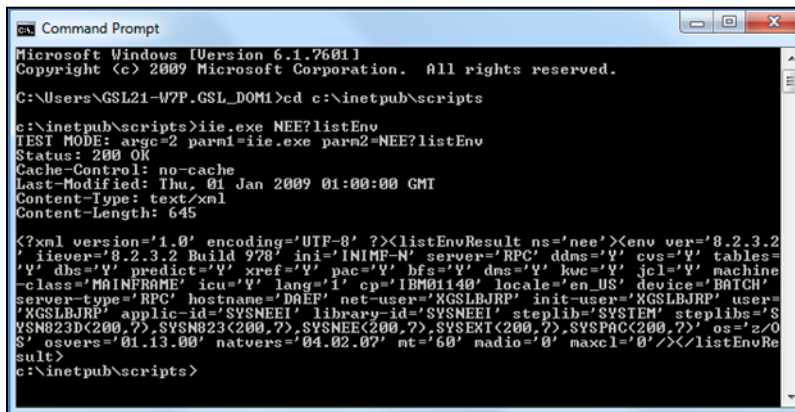
Test Connectivity outside of Web Browser

To test connectivity without using the Web Server, within a command prompt, go to the scripts directory & type:

```
iie.exe NEE?listEnv
```

This will issue a call direct to the EntireX & RPC Servers.

The output should be similar to the following:



```

C:\Users\GSL21-W7P.GSL_DOM1>cd c:\inetpub\scripts
c:\inetpub\scripts>iie.exe NEE?listEnv
TEST MODE: argc=2 parml=iie.exe parn2=NEE?listEnv
Status: 200 OK
Cache-Control: no-cache
Last-Modified: Thu, 01 Jan 2009 01:00:00 GMT
Content-Type: text/xml
Content-Length: 645

<?xml version='1.0' encoding='UTF-8' ?><listEnvResult ns='nee'><env ver='8.2.3.2'
' iiever='8.2.3.2 Build 978' ini='INIME-N' server='RPC' ddms='Y' cvs='Y' tables=
'Y' dhs='Y' predict='Y' xref='Y' pac='Y' bfs='Y' dns='Y' kwc='Y' jcl='Y' machine
-class='MAINFRAME' icu='Y' lang='1' cp='IBM01140' locale='en_US' device='BAICH'
server-type='RPC' hostname='DAEF' net-user='XGSLBJRP' init-user='XGSLBJRP' user=
'XGSLBJRP' applic-id='SYSNEE1' library-id='SYSNEE1' steplib='SYSTEM' steplibs='S
YSN823D(200,?)' SYSN823(200,?)' SYSNEE(200,?)' SYSEXT(200,?)' SVSPAC(200,?)' os='z/O
S' osvers='01.13.00' natvers='04.02.07' mt='60' madio='0' maxc1='0' /></listEnvRe
sult>
c:\inetpub\scripts>
  
```


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