X-Analysis Installation & Upgrade Guide

Software Version 13.3.01, 20230403

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Preface

About this guide

This installation guide describes how to set up X-Analysis. It discusses the following topics:

* Installation Overview
* Installation of the License File
* XA client installation under multiple Eclipse or RDi instances
* Uninstallation of X-Analysis
* Troubleshooting

Version

This is version 13.3.01 of the X-Analysis Installation & Upgrade Guide.

How to use this guide

The various sections in this guide focus on how to correctly install and/or upgrade X-Analysis. There is a new section dedicated to the multiple versions of X-Analysis. Also, the guide covers important aspects like the required Server and Client components and their installation. There are comprehensive sub-sections that specify the User Profile and System requirements. A separate section gives the details on the Uninstallation procedure of X-Analysis from IBM i. The final section contains some troubleshooting tips.

The X-Analysis suite of products contains a total of eight modules. This guide only covers the Installation & Upgrade of X-Analysis. For information about all the eight X-Analysis modules, please contact your Fresche Solutions representative or visit:  
<https://freschesolutions.com/products/x-analysis-suite/>

What is new in the latest release?

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| --- | --- |
|  | For this release, we updated this document. This release has the following changes: |

* [Removing the Cross-Reference Libraries](#_Ref2038135808): Display the new command XDLTLIB.
* [Non - API Server / Fall Back Mode](#_Ref-1444234136): Removed the dialog box.
* [X-Analysis Licensing](#_Ref-1037121744): Revised the cross-reference for the options Obtaining a License File and Applying a License File to X-Analysis User Manual. Also, deleted the content for the options License file installation process using License Manager view and License on Multiple Partitions to add new cross-reference of X-Analysis User Manual.
* [Server Installation Manager](#_Ref199484389): Replaced the screen Server Installation Manager.
* [User Profile Requirements](#_Ref-1310519633): Replaced \*ALLJOB to \*ALLOBJ.
* [System Requirements](#_Ref1606786025): Added note related to the Flowcharts generated using the File API method.
* [Manual Installation Method](#_Ref-691465509): Revised the topic title.
* Replaced all the existing X-Analysis Server screens with the new 5250 Emulator screens.
* [Server Installation Manager](#_Ref199484389): Revised the topic to introduce the new option Start the XA API Server.
* [Manual Installation Method](#_Ref-691465509): Revised the topic to update the new parameter in XAINSTALL Command.
* [XAPISRVUTL Command](#_Ref1716524898): Added new topic and also deleted the topics related to the XAAPISRV Command.
* [Version Compatibility](#_Ref212440755): Revised the topic to explain the various scenarios and their respective behavior of cross-reference with respective plugins as per the new release 13.3.01.
* [Prerequisites for Starting API Server (Japanese Specific)](#_Ref-432234401): Created a new topic to provide a solution for the user, unable to start the XA API server.

Installation Overview

This document gives an overview of installing the X-Analysis software. For further help, contact our support team at [Support@freschesolutions.com](mailto:support@freschesolutions.com), or call any of our offices displayed on our website at [www.freschesolutions.com](http://www.freschesolutions.com/).

System Requirements

To use X-Analysis, ensure that all necessary components are installed on your IBM i and PC.

Ensure that all items listed below are in place:

Server

* Connection to the IBM i running OS version V7R1 and above with the relevant Java toolbox installed. Also, the minimum Java version supported by X-Analysis is 8. From version 13.2.11, SQL cross-referencing will work even when Java 8 or above is not a default on the IBM i machine.
* IBM i require approximately 3 GB of disk space for installation.
* IBM i machine 5770SS1 System Openness Includes (option 13) must be available on the system.
* X-Analysis X-Datatest/Code Coverage feature requirements as mentioned below:
  + Code coverage will not work on V7R1M0.
  + Code coverage works on V7R2 and V7R3 with PTF support.
  + Code coverage works on V7R4 without any PTF.

Requirements on OS and Programs

|  |  |  |
| --- | --- | --- |
| **IBM i** | **MRM** | **MRI** |
| V7R4 | 5770WDS option 60 |  |
| V7R3 | PTF 5770WDS SI65229 | 2924 PTF 5770WDS SI64655 |
| V7R2 | PTF 5770WDS SI65228 | 2924 PTF 5770WDS SI64544 |
| V7R1 | Time to upgrade |  |

Certified Version of IBM i OS

The below table list down the version of X-Analysis certified for the respective IBM i OS.

|  |  |
| --- | --- |
| **IBM i OS Version** | **X-Analysis certified version** |
| V7R5 | Certified as of X-Analysis version 13.3.XX |
| V7R4 | Certified as of X-Analysis version 13.1.XX |
| V7R3 | Certified as of X-Analysis version 12.1.6 and above |
| V7R2 | Certified as of X-Analysis version 10.2.1 and above |
| V7R1 | V7R1 is the minimum supported IBM i OS version certified for X-Analysis version below 13.3.XX |

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|  | From X-Analysis version 13.3.XX, V7R2 is the minimum supported IBM i OS version. |

Client

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| --- | --- | --- |
| * PC that's running Windows 8 and above. * You must have 4 GB RAM if using IBM Rational products and 2 GB RAM when using Eclipse. * The minimum Java version supported by the X-Analysis client is 8. * LAN Card. * An active Physical connection with the IBM i via TCP/IP. * Office 2007 and above/Open Office (optional for documentation). * Visio 2007 and above/Open Office Draw (optional for flowcharting).  |  |  | | --- | --- | |  | Flowcharts generated using the File API method can be opened on any tools that support VSDX, and do not always require Visio for that purpose. |  * Adobe Reader 5.x and above. * Enable the WMI (Windows Management Instrumentation) services to run X-Analysis MSI. The following instructions are listed below to enable it.   + Open the Command Prompt as Admin.   + Enter “sc query winmgmt” to determine if it’s currently running.   Fig. 1.1.1 – Command Prompt   * + If required, follow the below instructions to enable it.     - Enter “sc config winmgmt start= auto”     - Enter “net start winmgmt”     - Enter “net start iphlpsvc”     - Enter “net start wscsvc” |

Supported versions of Eclipse and Rational products (RDi)

* X-Analysis 13.2.00 to 13.2.06 supports Rational products version 9.0 and higher.
* X-Analysis 13.2.07 and higher supports Rational products version 9.5 and higher.
* X-Datatest/Code Coverage feature requires Rational products version 9.5.1.2 or higher.
* X-Analysis 13.2.00 to 13.2.06 supports versions 4.2 to 4.7 of Eclipse software.
* X-Analysis 13.2.07 and higher supports versions 4.4 to 4.7 of Eclipse software.
* X-Analysis 13.2.09 and higher also supports version 4.18 of Eclipse software.

Client-Server Connections

X-Analysis uses IBM's Toolbox for Java, JTOpen, to access data on the IBM i. The following ports should be accessible on the IBM i:

* Port 8471 and 9471(TLS/SSL) are used for JDBC Database requests
* Port 8475 and 9475(TLS/SSL) are used for Command Call
* Port 8476 and 9476(TLS/SSL) are used to verify Sign on authentication
* Port 449 (same for TLS/SSL) is used to lookup service by name and return the port number.

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| --- | --- | --- |
| |  |  | | --- | --- | |  | From 13.3.00 onward, the API Server is installed and will receive requests on the default port for each release. The default HTTP port is 13300 for the release v13.3.00, 13301 for the release v13.3.01 and so on. For HTTPS mode, the user should set the port to 23300 for the release v13.3.00, 23301 for the release v13.3.01 and so on. Refer to "Advanced Preferences" in the document “X-Analysis\_User\_Manual” for additional details. | |

User Profile Requirements

**Server Requirement**

The user must fulfill the following requirements before installing the server component.

|  |
| --- |
| * The User Profile executing the installation process must have \*SECADM and \*ALLOBJ special authorities or the user class as \*SECOFR. \*SECADM is required for the setting of the XAOWNER, as the owner of X-Analysis libraries, and \*ALLOBJ is required for the Allow Object Differences ALWOBJDIF(\*COMPATIBLE) on the RSTLIB command. * \*SAVSYS special authority (SPCAUT) specified in the user profile. * \*USE authority to use commands CRTLIB, CLRLIB, DLTLIB, and RSTLIB. |

**Server Installation Process**

During installation, the process will automatically place all the foundations required to secure the X-Analysis libraries/objects with an authorization list:

* As of 13.2.10, a new user profile XAOWNER will be created. The XAOWNER profile will become the owner of all the files that get created during the installation. The XAOWNER user profile is used internally by the installation process only. It is not intended to be used by the user to launch the installation. The following command will be executed by the installation process:

**CRTUSRPRF USRPRF(XAOWNER) PASSWORD(\*NONE)**  
**USRCLS(\*PGMR) INLMNU(\*SIGNOFF) LMTCPB(\*YES)**  
**TEXT('X-ANALYSIS object owner') SPCAUT(\*NONE) MSGQ(QUSRSYS/XAOWNER)**

* As of 13.2.10, a new authorization list XAAUTHLST will be created by the installation process. The XAAUTHLST list will identify which user profiles or group profiles are allowed to use X-Analysis.
  + The following command will be executed to create an authorization list that would allow any users to access X-Analysis:  
    CRTAUTL AUTL(XAAUTHLST) TEXT('X-ANALYSIS Authorization List') AUT(\*ALL)
  + Then the owner will be set to XAOWNER using the following command:  
    CHGOBJOWN OBJ(QSYS/XAAUTHLST) OBJTYPE(\*AUTL) NEWOWN(XAOWNER) CUROWNAUT(\*REVOKE)

**ACTION REQUIRED**

* The security administrator of the IBM i should refine the definition of the XAAUTHLST authorization list in order to restrict authority to some specific users or groups as it has been created with public authority by default. Changing the password of the user profile XAOWNER is also recommended.

**Client**

It is required to have a local administrator profile for proper software installation. After installation, if the user uses X-Analysis through any other profile, then the set-up needs to be performed again.

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|  | It is recommend to use programmer user profiles when connecting to IBM i from the client. |

Server Pre-Installation Verifications

* Ensure PC client(s) are updated before performing server installation.
* Ensure to use a User Profile with \*ALLOBJ and \*SECADM special authorities or the user class as \*SECOFR to perform the installation.
* The system value QALWOBJRST needs to be either \*ALL or \*ALWPGMADP. Run the DSPSYSVAL SYSVAL(QALWOBJRST) command in the IBM i.
* In the case of DBCS, verify the QIGC system value is 1, and the user cannot alter this value. The value 1 signifies that the DBCS version gets installed.
* To avoid restore failures due to the conversion error, the System value QFRCCVNRST 'Force conversion on restore' must be set to 2.
* The user profile must have use (\*USE) authority to all ASP device descriptions in the ASP group and all the specified libraries in the library list.
* Ensure the XAPROD library is not accessed during the installation process as the process will clear the library before installing a new version.
* V7R1 is the minimum supported IBM i OS version certified for X-Analysis version below 13.3.XX.

|  |  |
| --- | --- |
|  | From X-Analysis version 13.3.XX, V7R2 is the minimum supported IBM i OS version. |

For more information, refer to [X-Analysis Installation Error When Minimum OS Requirement is not Met](#_Ref-1092911913).

X-Analysis Client Components

The X-Analysis client software comprises the following:

**XAPluginSetup<version>.msi – X-Analysis Client software**

This installer installs all necessary X-Analysis client components as an Eclipse plugin.

The following are the default installation folders:

* 32-bit Windows

<C>:\Program Files\Fresche Solutions\X-Analysis\X-Analysis<version>\  
<C>:\Program Files\Fresche Solutions\X-Analysis\X-Browse<version>\

* 64-bit Windows

<C>:\Program Files (x86)\ Fresche Solutions\X-Analysis\X-Analysis<version>\  
<C>:\Program Files (x86)\ Fresche Solutions\X-Analysis\X-Browse<version>\

**Eclipse4\_4\_2.msi - Eclipse environment for X-Analysis**

The MSI installs Eclipse JEE 4.4 (Luna) along with Amazon Corretto Java Runtime Environment 8.

The installer should get installed only when neither of the below two products is installed on the machine:

* IBM Rational products 9.5 and above OR
* Eclipse version 4.4.

A user can install only one version of the Eclipse environment for X-Analysis. Multiple versions are not supported. On installing the latest Eclipse environment for X-Analysis, any older version of the Eclipse environment for X-Analysis will get removed.

X-Analysis Server Components

XAServerXX\_X\_XX.zip – This zip file contains the save file named “XAN4LOAD”. The suffix in the zip file denotes the X-Analysis server release numbers.

The SAVF “XAN4LOAD” in this zip file contains various programs, files, and other objects organized in the following libraries:

**XADDBxxxxx**  
**XADTAxxxxx**  
**XAN4CDEM**  
**XAN4CDEMCU**  
**XAN4CDEMPT**  
**XAN4CDXA**  
**XAOBJxxxxx**  
**XAODBxxxxx**  
**XAPROD**  
**XJAVAOBJS**  
**X2EGEN**  
**X2EMDL**  
**X2Exxxxx**

Server License

If you already are on V11 (or higher), a new license file is not required as the installation process will import it from the previous version. You can proceed by installing the latest Server and Client.

Otherwise, please request a License file from Fresche Solutions before starting any installation. Refer to the section ‘[Obtaining a License File](#_Ref-1037121744)’ for more details.

Proceed to install the latest client and server only when you have received the License File from support. Please store the new License File safely.

Installing the Server Software

X-Analysis provides two ways to install the server components.

1. Install using the Server Installation Manager, introduced from version 13.2.11 and above.
2. Manual installation method, using the FTP and Command Line.

Server Installation Manager

Before installing the server software using this method, the user should install X-Analysis client Software 13.2.11 or above. For installing the X-Analysis client software, refer to the section [Installing the Client Software](#_Ref1442759004).

On the X-Analysis client, the X-Analysis menu provides a new option, Server Installation Manager. Refer to the screen below displaying the option Server Installation Manager.

|  |
| --- |
| Fig. 2.1.1 Server Installation Manager |

This option provides the user to have its own connection feature and does not depend on any X-Analysis connections initiated from the navigation view.

From version 13.2.14, Server Installation Manager View gets enhanced from a User perspective. Users now have an option between FTP (File Transfer Protocol) or SFTP(Secured File Transfer Protocol) while uploading the X-Analysis-Server package to IBM i.

FTP is a default option provided to a User. For SFTP, a user must select the option Upload using Windows SFTP (SSH key auth.).

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| Starting with version 13.3.01, the installation process detects running instances of the API server. It takes care of detecting and, if required, stopping these instances. The Server Installation Manager View gets enhanced with a new option called Start the XA API Server. This feature provides the option of starting the XA API server instances at the end of the installation.  Fig. 2.1.2 Server Installation Manager View |

**Prerequisites in using SFTP while uploading the XA-Server package to IBM i:**

* The IBM i Host must be configured and have the SSH (Secure Shell) server running.

|  |  |
| --- | --- |
|  | IBM i product reference: 5733-SC1 / IBM Portable Utilities for I (Base) and OpenSSH, OpenSSL, and zlib functions. |

* The Windows version must be up to date with OpenSSH installed.

|  |  |
| --- | --- |
|  | OpenSSH is included in Windows 10 and Windows Server 2019. |

* The IBM i Host must be configured as a known host to the Windows SFTP command.
* The IBM i User connecting to the host must be configured for SSH key authentication.

|  |  |
| --- | --- |
|  | Password authentication is not supported in this feature. |

Once all the prerequisites are met, the user must be able to run SFTP on the Windows command line and connect to the IBM i host. SFTP should not inquire the user for a confirmation about the known host or the password.

As mentioned above, a user can select an option between FTP or SFTP for uploading the X-Analysis-Server package to IBM i. The below section describes the uploading of the X-Analysis-Server package through FTP, which is a default option for a user.

**Login Information**

Click the option Server Installation Manager and enter the valid login information.

|  |
| --- |
| Fig. 2.1.3 Login Information |

1. Select the TCP/IP address/Computer Name of the IBM i to be accessed.
2. Enter the User Name and the Password of a valid IBM i profile.
3. Specify the ASP Group if X-Analysis is installed on an ASP group.
4. Check the box for the ‘Use SSL’ feature for additional security. For details, refer to the section Appendix F – Use SSL feature in X-Analysis User Manual.
5. Click Connect.

After the connection gets established, a confirmation message will be displayed on the Summary Results dialog box.

|  |
| --- |
| Fig. 2.1.4 Summary Results |

**Automatic Installation**

Click the tab Automatic Installation for the Package File Setup.

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| Fig. 2.1.5 Package File Setup |

If a server package file resides on a local drive and requires uploading to the server. In that case, click the browse button or enter the path in the File Location tab to retrieve the file path.

|  |
| --- |
| Fig. 2.1.6 File Location |

|  |  |
| --- | --- |
|  | If the package file is a zip file, the content of the zip file must have a XAN4LOAD file. If not, an error gets reported. |

Select the file and click Open.

The user must specify the same file in IBM i Save File Location. The default value is QGPL/XAN4LOAD.

|  |
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| Fig. 2.1.7 File Location |

**Upload Only**

This option uploads the specified package file to the server without launching the installation process. The upload action gets executed within the plugin in a background eclipse job.

When the user clicks the option Upload Only, the save file will receive the uploaded package. But for the installation action, the library’s save file must exist on the server.

If the save file already exists on the server, it displays a message to overwrite the save file.

|  |
| --- |
| Fig. 2.1.8 Warning Message |

Click Yes, to overwrite the save file.

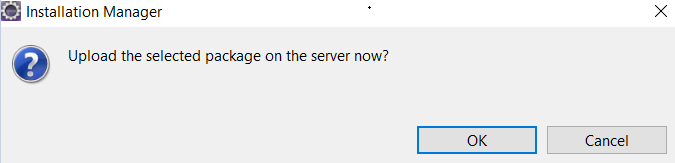


Fig. 2.1.9 Installation Manager

Click OK, to upload the selected package on the server.

After clicking OK, the Process Job gets started in the background.

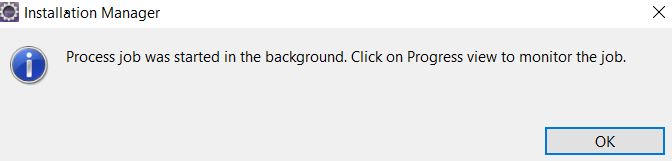


Fig. 2.1.10 Progress View

Click OK to monitor the Process job. In Summary Results dialog a message gets displayed about the Process job.

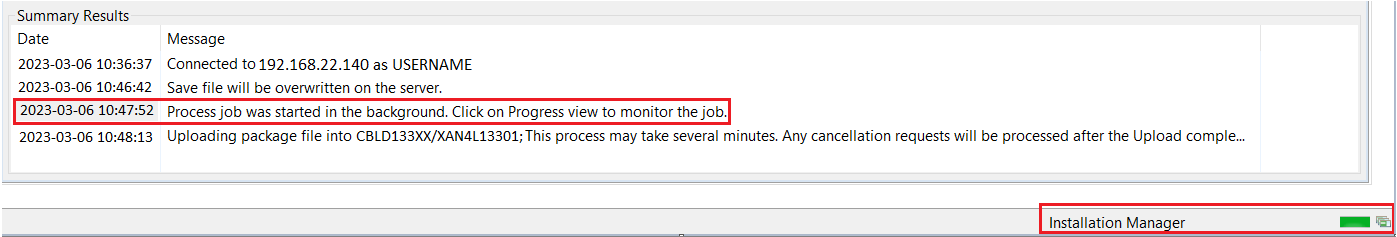


Fig. 2.1.11 Progress View

Click on the Progress View tab to view the progress of Uploading package file.

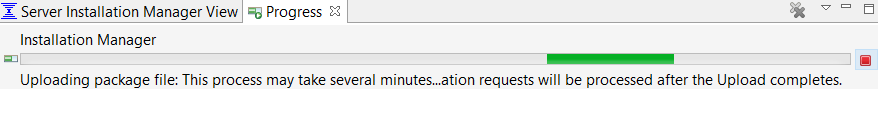


Fig. 2.1.12 Progress View

If the user wants to upload another file while the current job is in progress, it will display a message that an upload action is currently in progress and the user need to wait before launching another progress.

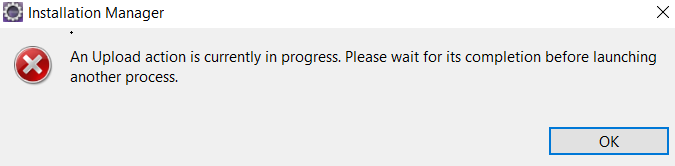


Fig. 2.1.13 Installation Manager

If the user presses the Cancel button to cancel a running background job, a message gets displayed that any cancellation request will be processed after the upload is completed.

Refer to the screen below, where Summary Results get updated with the messages for Cancel Operation and Launching another process.

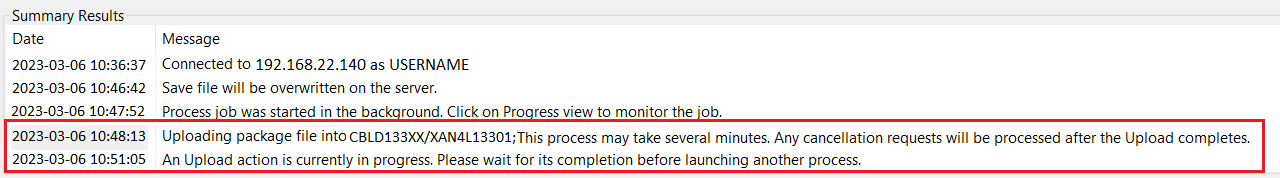


Fig. 2.1.14 Cancel Operation

Once the package file gets uploaded successfully, a message gets displayed.

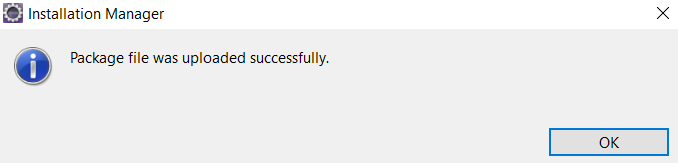


Fig. 2.1.15 Package File

Once the user clicks OK, the Summary Results also get updated with a message that Package File was uploaded successfully.

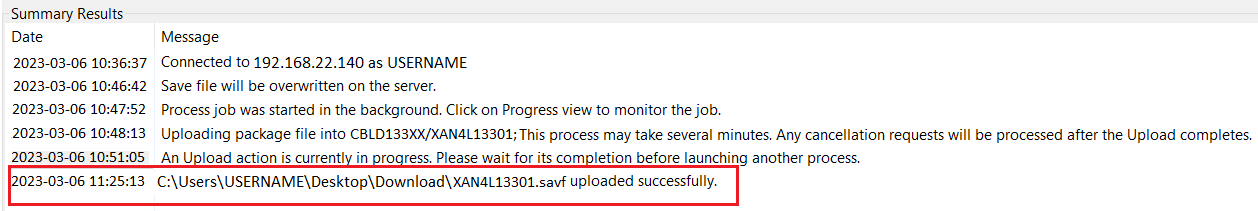


Fig. 2.1.16 File Uploaded Successfully

**Launch Installation**

Before launching the installation, the user must ensure that the save file is restored into the same library where it was uploaded.

Click Launch Installation.

|  |
| --- |
| Fig. 2.1.17 Launch Installation |

Click OK to launch the installation process on the server.

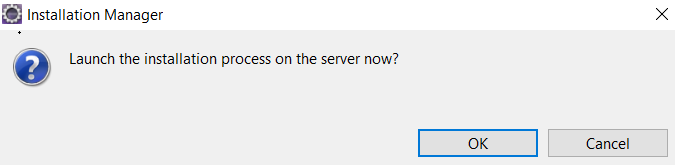


Fig. 2.1.18 Installation Process

After clicking OK, a window gets displayed for XA Server License Agreement. The user must Accept the agreement to launch the installation process.

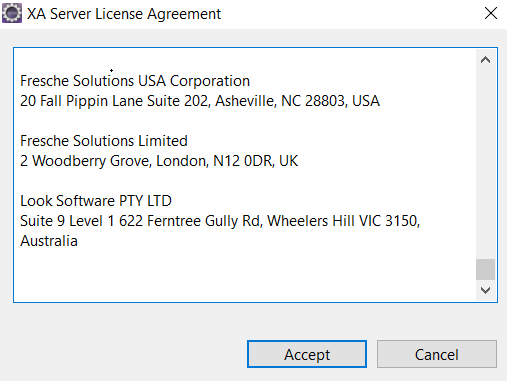


Fig. 2.1.19 XA Server License Agreement

After accepting the XA Server License Agreement, the Installation job will start. Click OK to view the progress of the installation process.

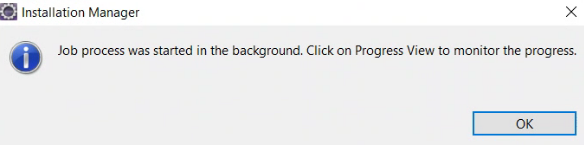


Fig. 2.1.20 Installation Process Job

|  |
| --- |
| Click OK, and the following message gets displayed.  Fig. 2.1.21 Server Installation Job  Click OK to start the XA API server job.  Fig. 2.1.22 Server Installation Job |

After clicking OK, the Process Job gets started in the background and the server installation job XAINSTALL gets submitted.

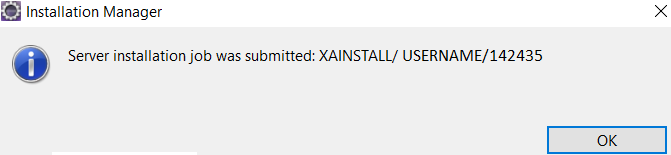


Fig. 2.1.23 Server Installation Job

Click on the Progress view button to open the progress view.

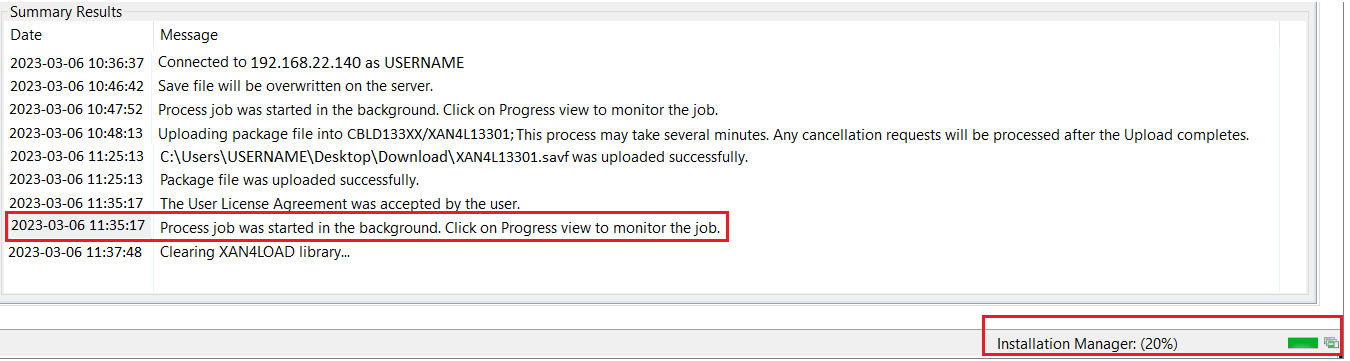


Fig. 2.1.24 Progress View

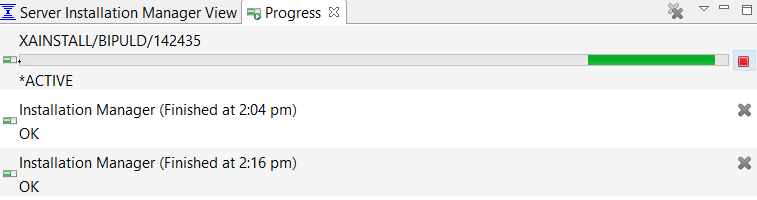


Fig. 2.1.25 Progress View

By default, the X-Analysis demo libraries are installed. If the check box is checked, then this will not be installed.

|  |
| --- |
| Fig. 2.1.26 Demo Libraries |

Once the installation process is running and the user clicks another Launch Installation, an error message gets displayed. Also, the same message will get reflected in the Summary Results.

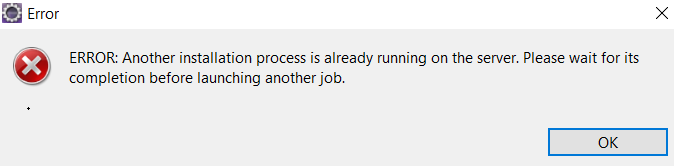


Fig. 2.1.27 Error Message

Server job status is updated as soon as the job completes. Any error or warning reported by the installation process will be indicated in the job status.

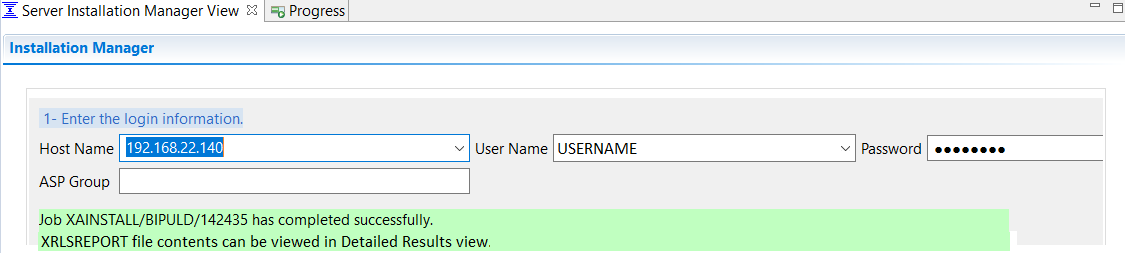


Fig. 2.1.28 Server Job status

As soon as the installation IBM i job completes, the Detailed Results tab becomes active listing details about the job.

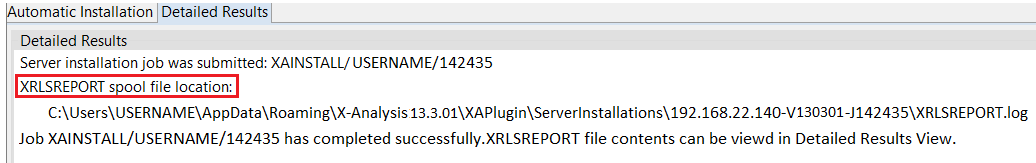


Fig. 2.1.29 Detailed Results

XRLSReport spool file is downloaded from the server to the local machine in the XAPlugin folder. If the XRLSReport spool file is not downloaded, it indicates the job has terminated abnormally or a fatal error has occurred. Also, the contents of the XRLSReport spool file are displayed for more details about the installation process.

|  |  |
| --- | --- |
|  | If an error or warnings are reported, the job log will also be downloaded. |

**Closing the Server Installation Manager View**

Close the Server Installation Manager window after the Job XAINSTALL is completed successfully.

If the user closes the Server Installation Manager window while a Job upload/installation is in progress, it will notify the user with a warning message that Background jobs will continue to run.

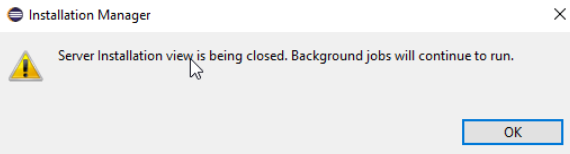


Fig. 2.1.30 Background Jobs

**Closing X-Analysis Application window**

If the user closes the X-Analysis Application window when a Job upload/installation is in progress, it will notify the user with a warning message that Background jobs will be canceled.

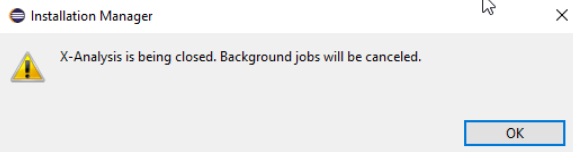


Fig. 2.1.31 Background Jobs

Manual Installation Method

FTP Commands to Upload of XAN4LOAD Package File

Using this method, the user can install the server software components manually. First, unzip the XAServerXX\_X\_XX.zip file to extract the SAVF.

Upload the XASRVXXXXX.SAVF file to the IBM i.

Use the following FTP commands on the command prompt window:

1. Ftp <enter the IBM i IP address here>. For example, ftp 192.168.170.1.
2. In the Username, type your user name (available on IBM i) and press ENTER. For example, USER2012.
3. In the Password, type your password <xyz> and press ENTER.
4. Type in the local directory where the XAN4LOAD file is stored. For example, CD C:\MYDIR and press ENTER.
5. Type in the library name on the IBM i machine where the save file is to be stored. For example, cd <library name> and press ENTER. If it does not accept the library name format, use the format cd /qsys.lib/<mylib>.lib and press ENTER.
6. Type in quote site namefmt 1 and press ENTER.
7. Type in bin and press ENTER.
8. Type in put XASRVXXXXX.SAVF and press ENTER.

Installation Process

1. Delete the XAN4LOAD library if it already exists. Skip this if you are installing X-Analysis for the first time.
2. Only a user profile with \*ALLOBJ or \*SECOFR authority can install X-Analysis successfully.
3. Restore the XAN4LOAD library manually from the save file using the RSTLIB command.
4. For an installation on ASP group, SETASPGRP aspgroup command must be executed to be positioned on the appropriate ASP device. The ASP device status must be ‘AVAILABLE’ otherwise SETASPGRP command will fail. If this command is issued from within STRPDM, the command will fail.
5. Run the XAN4LOAD/XAINSTALL command from "IBM i" command prompt to install X-Analysis. This command has five parameters:

|  |
| --- |
| Fig. 2.2.1 XAINSTALL Command |

* 1. **Installation mode (MODE keyword)**

The default value is "B" for Batch mode. To submit installation interactively, enter "I" under the F4 menu.

* 1. **ASP group (IASP keyword)**

The default value is \*NONE, and installation is done on \*SYSBAS. To install X-Analysis on an ASP group, enter an active/available ASP group value under the F4 menu.

IMPORTANT: if a previous version of X-Analysis is already installed, the ASP parameter specified on the XAINSTALL command must match the ASP value of the current installation of the XAPROD library. You can use the DSPLIB command to list the library ASP group.

* 1. **Start XA API Server**

Starting with version 13.3.01, a new parameter has been added to the XAINSTALL command to indicate to the process to start or not the API server after the installation has been completed successfully. The default value is "Y" for this option.

* 1. **Installation of the demo libraries (INSTLDEMO keyword)**

The default value is "Y" and all the demo libraries will be installed during the process. If you don't want demo libraries to be installed, enter "N" under F4 menu.

* 1. **Verbose Installation**

It is a new parameter added in the XAINSTALL command, and the value can be set to either "Y" or "N". The default value is Y and controls the level of information provided to the user while installing X-Analysis.

By default, the installation is always in verbose mode, and a user gets all possible available information and controls over the installation job, having the possibility to Continue or Not the installation process.

If set to N, the installation job gets launched without any user intervention. In error cases, the installation will display the errors/warnings and finally request to Continue or Not the installation process.

1. Upon entering the XAINSTALL command, the installation process will not start if object locks are detected in the XAPROD library. An informative message will be displayed to the user before terminating. The user must ensure the XAPROD library is not accessed during the installation process.
2. A screen will be displayed with the X-Analysis license agreement. The user must read through all the Terms and Conditions. To reach the bottom of the screen, press F18, which will enable the F6 key to agree to the X-Analysis license agreement. The installation process continues after the agreement has been accepted, else, the process is aborted.
3. After the job specified in point 5 above is complete, check the generated report for that job.
   * In case of interactive execution – press SHIFT+ESC then type "3." Press ENTER and take option "4" – Display Spool files. Then take option "5" on the report "XRLSREPORT".
   * In case of batch execution, take option "4" – Display Spool files. Take option "5" on the report "XRLSREPORT".
   * Type "B" on Control and verify if the installation process was Successful. An explicit message will be logged at the bottom of the XRLSREPORT report.
   * If the installation has failed or is successful but has reported warnings, before rerunning the installation, please send the XRLSREPORT report along with the job log (QPJOBLOG) to the X-Analysis support team at [Support@freschesolutions.com](mailto:support@freschesolutions.com).

Post Installation Details

* In the case of a brand-new installation, refer to the [Applying a License File](#_Ref-1037121744) section to complete the Server installation. The X-Analysis client is required.
* About ASP installations: While efforts are being made to accommodate the installation and use of X-Analysis on servers using ASP configurations, where limitations may be encountered. With your existing applications, configuration changes may be necessary at the system and/or job level to take full advantage of your configured ASP’s.
* All jobs from X-Analysis are submitted in batch mode using XAOBJxxxxx/XAN4 job description which uses the default job queue (QBATCH). If needed, the job description can be changed: WRKJOBD JOBD(XAOBJxxxxx/XAN4)
* The installation will upgrade the X-Analysis demo library (XAN4CDXA) to the current version of the product.

|  |
| --- |
| Once the Server is installed, start X-Analysis API Server and configure the Client. For more details, refer to the section [X-Analysis API Server Execution and Client Configuration](#_Ref-1663347996). |

Installing the Client Software

Pre-Installation Details

* Before installing the X-Analysis client, ensure to close any running RDi/Eclipse instances.
* Version 12 and above allows multiple versions of X-Analysis plugins on the same RDi/Eclipse. If you do not wish to continue using the older version, please uninstall it before proceeding to install the latest version. Directly installing without uninstalling will result in multiple X-Analysis plugins on the RDi/Eclipse.
* If the plugins 12.0.x, 12.1.x, and 13.x are installed, and 12.0 is uninstalled, then the plugins 12.1.x and 13.x will also get removed. The Installation mechanism has been changed from version 12.1.x to avoid this behavior. It persists only with the 12.0.x uninstallation. Uninstalling the plugins 12.1.x or 13.0.x will not affect the installation of any other installed plugins version.

Eclipse environment for X-Analysis

The Eclipse environment for X-Analysis versions 13.1.0/13.2.0/13.2.08 and 13.2.12 are all fully compatible with the current version of X-Analysis. There is no need to upgrade any of those Eclipse environments.

If you do not have supported IBM Rational products or any supported version of Eclipse installed, you can install our Eclipse environment for X-Analysis.

To do so, download and install Eclipse4\_4\_2.msi.

* Eclipse JEE 4.4 (Luna) and Amazon Corretto Java Runtime Environment 8 will be installed on your PC. The installation is done at the system level only. The default installation folder is Fresche Solutions\X-Analysis.

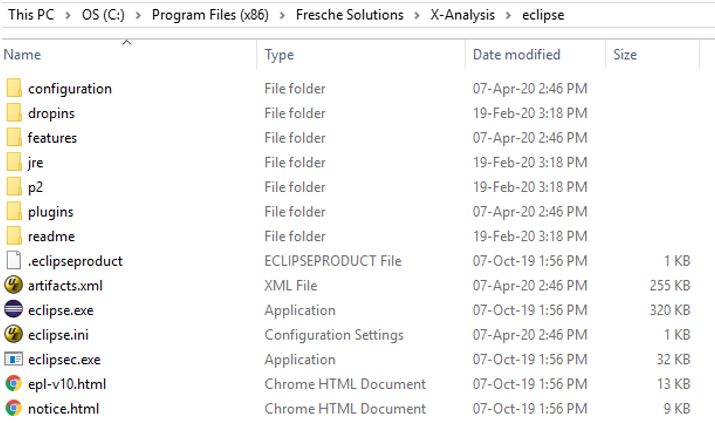


Fig. 3.1.1 – Eclipse environment for X-Analysis

\*any installed version of the runtime will be removed automatically by the installer and replaced by the newer version. For example, installing runtime 13.2.0 will remove runtime 13.1.0 along with all the X-Analysis plugins installed on it. X-Analysis Client software files and folders will not be removed from the system.

At this point, after the installation is complete, only the Eclipse application is installed by the installer. No X-Analysis plugin is present.

X-Analysis Client Installation

Proceed with the installation of the X-Analysis client component by executing XAPluginSetup<version>.msi. Multiple dialogs get displayed to the users.

There are two installation phases. The first phase installs the software on the local machine, and the second phase installs X-Analysis as a plugin under an Eclipse instance.

* A user installing X-Analysis for the first time will be asked for the type of installation: User space or System space for installation. A System space installation type requires administrator rights.

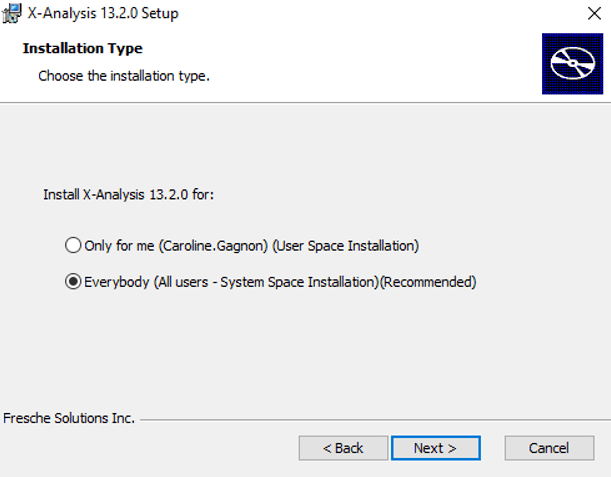


Fig. 3.2.1 – Installation Type

|  |  |
| --- | --- |
|  | We only support User space installation inside Eclipse which is installed using the Oomph installer. |

* The user need to specify an Eclipse location (or RDi Eclipse location) which the installer will use to install X-Analysis as a plugin. Also, the user can change the proposed path.

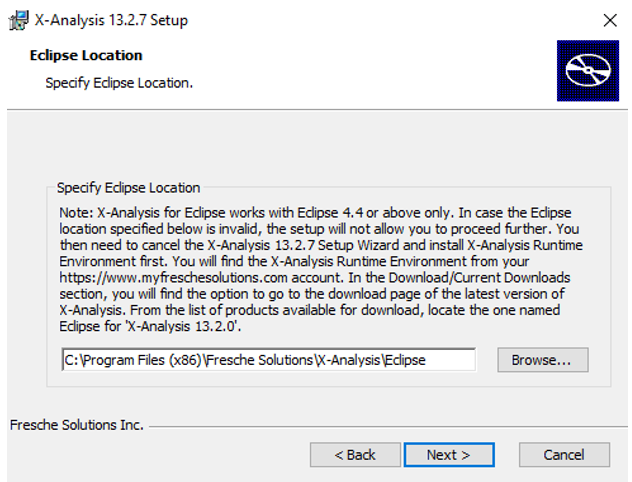


Fig. 3.2.2 – Application Library view

* The default installation folder is Fresche Solutions\X-Analysis. In previous versions, it was under Databorough\X-Analysis<version> folder. This new location applies only as of 13.2.0 versions. The installer allows the user to specify another location for the installation of the components.

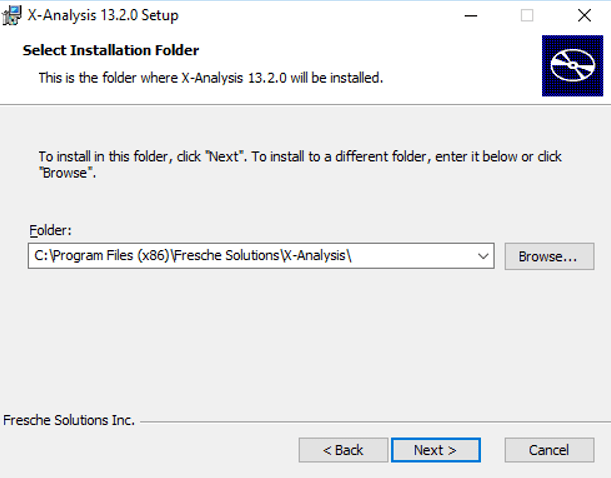


Fig. 3.2.3 – Select Installation Folder

|  |  |  |
| --- | --- | --- |
| |  |  | | --- | --- | |  | After completing the installation of X-Analysis Client, the user need to check for HTTPS configuration. For more details refer to the section [X-Analysis API Server run in HTTPS mode](#_Ref-1892124191). | |

Silent Mode Installation

The X-Analysis setup can be installed in silent mode from the command prompt using the Msiexec.exe program – locally and remotely. It is supported both on Runtime and RDi. A couple of other pointers are to be kept in mind while using this mode, as no dialogs get displayed to the user.

* Msiexec.exe is a Microsoft process that belongs to the Windows Installer Component and is used to install new programs that use Windows Installer package files (MSI).
* If a X-Analysis version 13.x is already installed on the machine, the installation type will be the same as the installed version. For example, if the installed version is installed in the User space, then the new installation will be done in the same User space.
* If it’s a first-time installation or if a 12.x version is already installed, a System Space installation will be done.
* Note: A System Space installation requires administrator rights. The command prompt must be started as Administrator.
* In silent mode, there are 2 ways to explicitly specify an Eclipse path to the installer:
  + Specifying ECLIPSEPATH variable on the msiexec command
    - Example: msiexec -I XAPluginSetup<version>.msi -DECLIPSEPATH="C:\ Eclipse-Luna-SR2-64b - MSI testing\eclipse" /qn
  + Defining ECLIPSEPATH value in C:\xaMSIParam.ini file

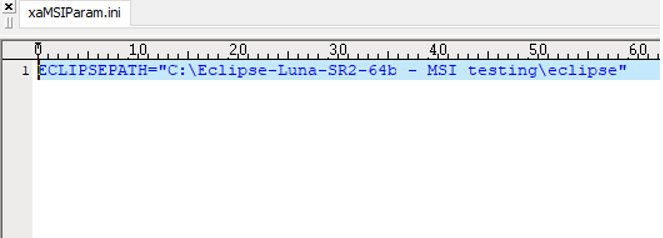


Fig. 3.3.1 – Eclipse Path

* If no ECLIPSEPATH value is provided, the installer will search for an Eclipse environment for X-Analysis installation. If one is found, the path will be used as the ECLIPSEPATH by the installer. Otherwise, the installer will search for a valid installed version of RDi to use. If no RDi was found, the installer will exit with an error.
* If an Eclipse instance is open, the installation will proceed successfully with no prompt, but the uninstall process might fail. For this reason, it is important to ensure that the Eclipse/RDi instance(s) is closed before performing uninstall.

Installation Details And Log Files

* Installation under RDi having other plugins installed
  + If you are using RDi with other plugins already installed, RDi might request you to reconnect (-re-install) the plugins using a special wizard. In that case refer to the section “[X-Analysis Installation Removes Other User Plugins in RDi](#_Ref-1764676089)” for more details.
* User Space Installation Details
  + Unless specified otherwise, the installation will be done by default inside “C:\Users\<username>\AppData\Roaming\Fresche Solutions\X-Analysis”
  + Registry Entries will be made inside HKEY\_CURRENT\_USER.
  + Shortcuts will be created inside

“C:\Users\<username>\AppData\Roaming\Microsoft\Windows\Start Menu\Programs\X-Analysis X.Y.Z”

* System Space Installation Details
  + Unless specified otherwise, the installation will be done by default inside

“C:\Program Files (x86)\Fresche Solutions\X-Analysis” or  
“C:\Program Files\Fresche Solutions\X-Analysis”  
depending on the OS architecture

* + Registry Entries will be made inside HKEY\_LOCAL\_MACHINE.
  + Shortcuts will be created inside

“C:\ProgramData\Microsoft\Windows\Start Menu\Programs\X-Analysis X.Y.Z”

|  |  |
| --- | --- |
|  | locations may vary depending on the OS architecture. |

* Example of a system space installation using defaults along with an X-Analysis Eclipse installation

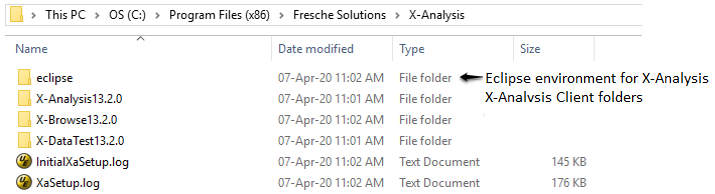


Fig. 3.4.1.A – Eclipse environment for X-Analysis

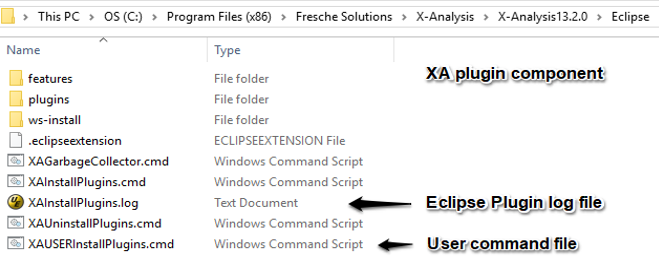


Fig. 3.4.1.B – Eclipse environment for X-Analysis

* Installer Log files
  + XAUninstallPlugins.log file (created by the Uninstallation process)
    - X-Analysis versions 13.2.00 to 13.2.06:
      * file is created in C:\Users\username\Documents folder
    - X-Analysis versions 13.2.07 and higher:
      * file is created in C:\Users\username\AppData\Local\Temp folder
  + XAUninstallXa.log file (created by the Uninstallation process)
    - X-Analysis versions 13.2.00 to 13.2.06:
      * file is created in C:\Users\username\Documents folder
    - X-Analysis versions 13.2.07 and higher:
      * file is created in C:\Users\username\AppData\Local\Temp folder
  + InitialXaSetup.log file
    - created in the installation folder X-Analysis\. Unless it ends prematurely, the file will be created in the C:\Users\username\AppData\Local\Temp folder by the installation process.
  + XASetup.log file
    - created in the installation folder X-Analysis\ by the installation process. If the process ends prematurely the file is not created.
  + XAInstallPlugins.log file
    - created in X-Analysis\X-Analysis<version>\Eclipse folder during X-Analysis plugin installation process.

|  |  |
| --- | --- |
|  | Versions before 13.2.0 creates log files under different names. Please refer to the installation manual corresponding to the version being uninstalled. |

|  |  |
| --- | --- |
|  | As of version 13.2.07, if a problem is encountered while creating the log file, the file will be created in the C:\WINDOWS\TEMP folder. |

Version Compatibility

Earlier, XA maintained some compatibility between the Client versions and cross-references initialized at the same GA version. For instance, cross-references initialized with version 13.2.05 could be used with XA client 13.2.16.

Starting from version 13.3.01, every version of XA Client will be compatible only up to certain previous cross-reference version(s).

|  |  |
| --- | --- |
|  | A particular X-Analysis plugin version if allows working with cross-reference created using previous X-Analysis versions, then such cross-reference is referred to as compatible cross-reference. |

Switch Perspective

Selecting a compatible cross-reference stays on the active perspective. However, If a user selects a cross-reference which is not compatible with the X-Analysis plugin version, a message gets prompted asking the user to switch the perspective.

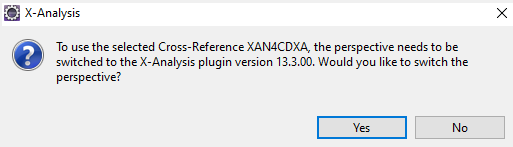


Fig. 4.2.9.A – Switching the perspective

The perspective switch happens on opting Yes; otherwise, the cross-reference expansion will not happen, and a warning node gets displayed with the message.



Fig. 4.2.9.B – Switching the perspective

If there is no matching X-Analysis plugin installed, a message gets displayed and the cross-reference selection happens in the current active perspective (in fallback mode).

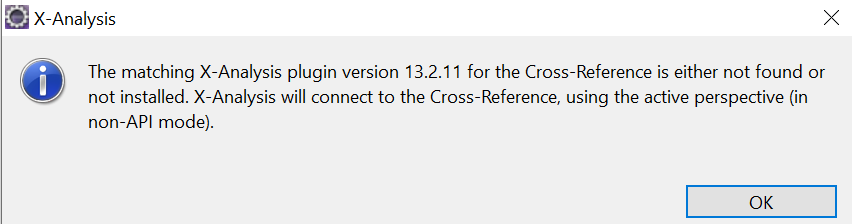


Fig. 4.2.10 – Switching the perspective

Scenarios

The table below outlines the scenarios regarding the behavior of compatible and non-compatible cross-references used with active X-Analysis plugin version.

|  |  |  |
| --- | --- | --- |
| **Scenario** | **Behavior** | **Example** |
| * Active perspective version is compatible to the cross-reference version | The cross-reference is selected in the same perspective without any issues | Cross-Reference - 13.3.01  Active Plugin - 13.3.02 |
| * Active perspective version is not compatible to the cross-reference version and * Cross-reference version plugin is available/installed | The user will be prompted for the switch of the perspective | Cross-reference - 13.3.00  Active Plugin - 13.3.01  Available Plugin - 13.3.00 |
| * Active perspective version is not compatible with the cross-reference version and * Cross-reference version plugin is not-available/not-installed and * Cross-reference version is of the same GA as the perspective version | The user will be informed that the required plugin version is not installed, and the cross-reference will be selected in the active perspective in non-API mode (fall back mode) | Cross-reference - 13.3.00  Active Plugin - 13.3.01  NOT Available plugin - 13.3.00 |
| * Active perspective version is not compatible with the cross-reference version and * Cross-reference version plugin is not-available/not-installed and * Cross-reference version is not of the same GA as the perspective version | The user will be informed that the required plugin version is not installed, and the cross-reference selection will fail | Cross-reference - 13.2.16  Active Plugin - 13.3.01  NOT Available plugin - 13.2.16 |

X-Analysis API Server Execution and Client configuration

Once the X-Analysis gets installed, the user needs to make sure to Setup the API server immediately with the XAPISRVUTL Command.

|  |  |  |
| --- | --- | --- |
| |  |  | | --- | --- | |  | From 13.3.00 onward, the API Server is installed and will receive requests on the default port for each release. The default HTTP port is 13300 for the release v13.3.00, 13301 for the release v13.3.01 and so on. For HTTPS mode, the user should set the port to 23300 for the release v13.3.00, 23301 for the release v13.3.01 and so on. Refer to "Advanced Preferences" in the document “X-Analysis\_User\_Manual” for additional details. | |

Prerequisites for Starting API Server (Japanese Specific)

This section provides prerequisite steps for the user to start the XA API server.

The API server will not start when the value of environment variable LANG is “/QSYS.LIB/JA\_JP\_5026.LOCALE". If, the API server does not start, perform either of the following steps:

* Remove the environment variable LANG from \*SYS and \*JOB environment, and set the system value QLOCALE to compatible value 5035.
  + RMVENVVAR ENVVAR(LANG) TYPE(\*SYS)
  + RMVENVVAR ENVVAR(LANG) TYPE(\*JOB)
  + CHGSYSVAL SYSVAL(QLOCALE) VALUE('/QSYS.LIB/JA\_5035.LOCALE')
* Change the value of the environment variable LANG to compatible setting for level \*JOB.
  + CHGENVVAR ENVVAR(LANG) VALUE('/QSYS.LIB/JA\_5035.LOCALE') LEVEL(\*JOB)

|  |  |
| --- | --- |
|  | The environment variables are the settings for the QShell session. Environment variable LANG tells QShell how to intercept the characters. The setting of environment variables will only affect QShell and won’t interrupt the traditional IBM i application. QShell only supports Japanese with CCSID 5035 and 13488 (Please refer to reference [National language support (NLS) considerations](https://www.ibm.com/docs/en/i/7.5?topic=qshell-national-language-support-nls-considerations)). CCSID 5026 is popular in Japan for the traditional IBM i application, but it is not compatible with the QShell application. With incompatible settings, QShell applications, like Java applications, will lead to unexpected errors because of wrong encode conversions. Currently, X-Analysis can automatically select compatible CCSID job attributes for QShell functions and restore the original CCSID job attribute after the job get finished. But considering the possible combinations of other environment settings and the limitation of the capability to maintain these settings automatically, X-Analysis doesn’t interfere with environment settings and leaves it to the administrator. This avoids unexpected interruption on IBM i. |

XAPISRVUTL Command

Starting with version 13.3.01, a new XAPROD command called XAPISRVUTL gets introduced to manage the API servers.

This command helps a user to start, stop, and check the availability of one or more API servers.

This command can be used to start the API server after a new installation where the user did not ask to start the API server.

The XAPISRVUTL command is available in the XAPROD library with the following two parameters:

* **Action**
* **Release**



Fig. 4.1.1 XAPISRVUTL Command

The user can have following values in the Action parameter.

* Check → check if the server corresponding to the release version is running.
* CheckAll → check if the server corresponding to each entry(version) defined in the xaprod/xaxinstver file.

|  |  |
| --- | --- |
|  | It returns the list of the server versions that were detected. |

* Start → starts the server corresponding to a specific version.
* Stop → stops the server corresponding to a specific version.
* Restart → restarts the server corresponding to a specific version.

|  |  |
| --- | --- |
|  | No error gets returned, if one instance is already stopped. |

* StartAll → starts a server corresponding to each entry(version) defined in the xaprod/xaxinstver file.
* StopAll → stops a server corresponding to each entry(version) defined in the xaprod/xaxinstver file.

|  |  |
| --- | --- |
|  | No error gets returned, if one instance is already stopped. Returns the list of the server versions that were stopped. |

|  |  |
| --- | --- |
|  | Action such as START, STOP, RESTART, and CHECK will require the RELEASE parameter. Action such as STARTALL, STOPALL and CHECKALL do not require the RELEASE parameter and will perform the action on all installed XA API servers. |

Default X-Analysis Client Configuration

Once the X-Analysis API Server starts running, the X-Analysis Client makes API calls and communicates with the server for the following implemented features:

* Application list
* Product license check - Internally sent on cross reference node expansion
* Object lists - All Objects / Programs / Files list for the application and application area.

If API Server is not Setup for HTTPS Mode

If the API server is not set up for HTTPS mode (that means running only in HTTP mode). In that case, no configuration is required in the X-Analysis Client. Refer to the screen below displaying the default X-Analysis client configuration.

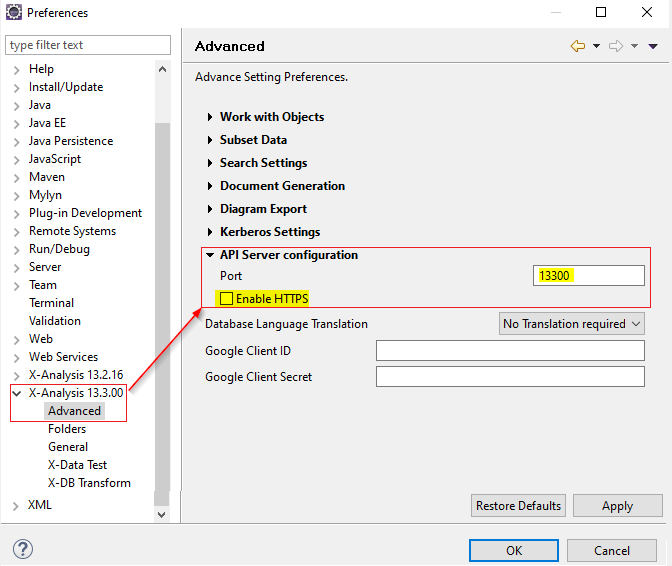


Fig. 4.2.1 Default X-Analysis Client Configuration

API Server Maintenance

|  |  |
| --- | --- |
|  | For more details on troubleshooting help, refer to the section [API Server Troubleshooting](#_Ref1883595685). |

API Server Log Files

A user can access two types of log files.

* **API Server Log File**

As the API server serves the requests from the X-Analysis Client, log entries will be created in the log file xaserver.log at the location /XANALYSIS/V13300/api-server. Refer to the screen below.

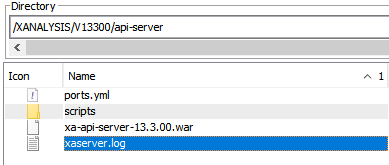
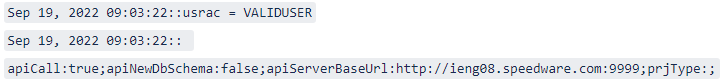


Fig. 4.3.1 API server log file

|  |  |
| --- | --- |
|  | When XA is installed on ASP device then also the log location will be /XANALYSIS/V13300/api-server, and not /<asp-group>/XANALYSIS/V13215/api-server. |

* **X-Analysis Client Log File**

X-Analysis Client indicates calls being relayed to the X-Analysis API server. The user will find the following logs in the X-Analysis Client log file.



|  |  |
| --- | --- |
|  | Notice the apiCall value of true and apiServerBaseUrl. |

Installing X-Analysis post version 13.3.00

When reinstalling version 13.3.00, then obviously the version 13.3.00 API server needs to be first stopped. Refer to the section [XAPISRVUTL Command](#_Ref1716524898).

If any previous version of X-Analysis is being installed, then the X-Analysis API server(s) will have to be stopped.

X-Analysis API Server run in HTTPS mode

This section deals with both the Server and Client configuration when HTTPS is required.

* Enable HTTPS in X-Analysis API server
* Prepare X-Analysis Client for HTTPS

Enable HTTPS in X-Analysis API server

The user needs to perform the following steps to enable HTTPS in Java Rest Server.

1. **Generate Self-Signed SSL Certificate**

Generate or use an existing certificate and place it at any IFS location on an IBM i machine. The user need to perform the following commands.

* + keytool -genkeypair -alias xarestcert -keyalg RSA -keysize 2048 -storetype PKCS12 -keystore xarestcert.p12 -validity 365 -ext san=dns:machine.domain.com
    - This command will generate a key pair (public key and private key) by the name xarestcert.p12, using RSA cryptography algorithm.
  + keytool -export -keystore xarestcert.p12 -alias xarestcert -file xarestcert.crt
    - This command generates a certificate file, by the name xarestcert.crt, from the keystore file.

|  |  |
| --- | --- |
|  | * machine.domain.com must be changed to the machine name where the certificate will be applied. * The validity of 365 days can be changed. |

Also, a user can refer to the page [Configure HTTPS for Spring Boot Application with Self-Signed Certificate on Localhost](https://www.codejava.net/frameworks/spring-boot/configure-https-with-self-signed-certificate) for generating the self-signed certificate.

1. **License File location**

The License file can be placed at any IFS location on an IBM i machine. The absolute file path needs to be specified in the /XANALYSIS/COMMON/ssl.yml file.

1. **Specify HTTPS port in ports.yml**

The HTTPS port is specified in the /XANALYSIS/V13300/api-server/ports.yml file through the server.ssl.port property. The property will be in a commented state and will be unchanged.

* + The default HTTPS port for XA 13.3.00 is set to 23300.

|  |  |
| --- | --- |
|  | This is like HTTP port 13300, which itself is based on X-Analysis version. |

* + If the specified port is already in use by some other service, then a different port must be specified.

1. **Supply the certificate details in ssl.yml**

X-Analysis server installation places default ssl.yml at IFS location /XANALYSIS/COMMON. Refer to the screen below.

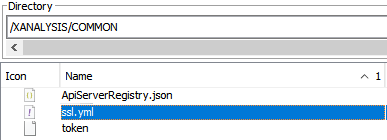
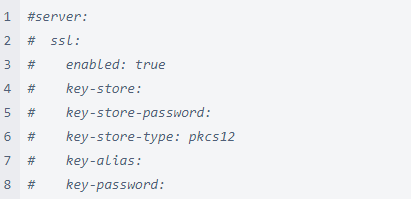


Fig. 4.4.1 Certificate Details

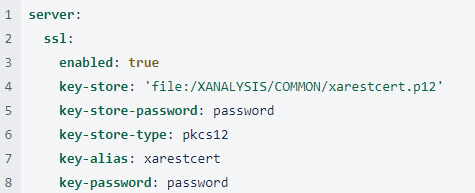
This file has all the properties required for running the API server in HTTPS mode in the commented form.



Change the properties and specify relevant values, such as

* + The value for key-store-type will be same as above, that is, pkcs12.
  + The values for key-store, key-store-password, key-alias, and key-password will be what the user has specified while generating the certificate.

Refer to the example below assuming SSL certificate is placed at IFS location /XANALYSIS/COMMON.



Now, the user need to run the X-Analysis API server. For more details refer to the section [XAPISRVUTL Command](#_Ref1716524898).

Prepare X-Analysis Client for HTTPS

Apply the correct SSL certificate in the Client's JDK/JRE. The user needs to import the generated SSL certificate in the client's JDK/JRE keystore. This can also be done using the JDK keytool utility or by using the section Install SSL CA certificate option in X-Analysis User Manual.

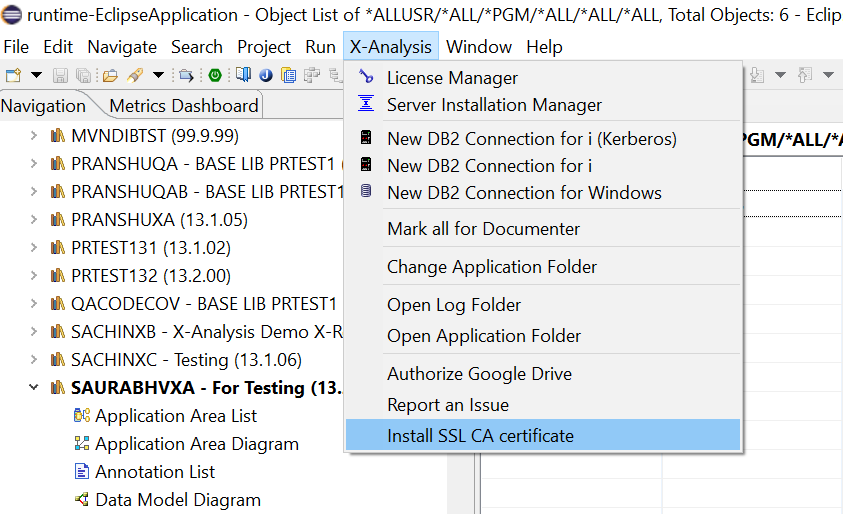


Fig. 4.4.2 Install SSL CA Certificate

The following command can also be used to import the certificate.

|  |  |
| --- | --- |
|  | keytool -importcert -file xarestcert.crt -alias xarestcert -keystore "$JDK\_HOME/jre/lib/security/cacerts" |

After adding the certificate to the client’s JDK/JRE truststore, restart the X- Analysis Client for the changes to take effect.

Now go to Windows>>Preferences>>X-Analysis 13.3.00>>Advanced page and Set the Port to 23300 and check Enable HTTPS. Refer to the screen below.

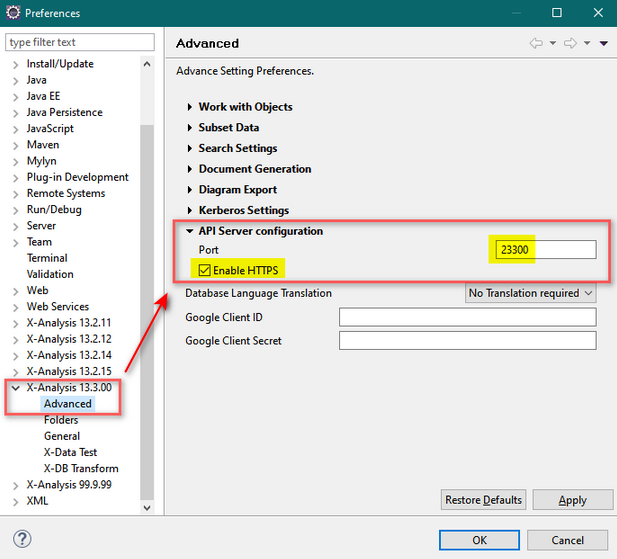


Fig. 4.4.3 X-Analysis Client Configuration - Required HTTPS Mode API Server

X-Analysis Plugins in Multiple Eclipse/RDi applications

A user can install X-Analysis as a plugin under multiple instances of Eclipse and RDi. It is a manual effort that a user can achieve. Steps are described in the following section for the 13.2.00 version, but it applies to any versions of X-Analysis 13.2 and above.

|  |
| --- |
| Installing XA-Plugin 13.2.0 Onwards from an Eclipse/RDi Application  Once the XA Client 13.2.0 software and plugin have been installed, you can integrate the plugin under any other Eclipse or RDi installation that is supported by X-Analysis. The easiest method is through the Eclipse Software Site installation.  Eclipse provides the Install New Software wizard, which allows for the addition of new software to your installation. To install the XA Client 13.2.0 software (aka feature):   1. The user must start the Eclipse instance where the XA plugin is to be installed. 2. On the Eclipse menu, click Help > Install New Software... This wizard shows the items that are available for installation. 3. Select the existing XA Client 13.2.0 software site using the Work With combo at the top of the page. If the site does not exist then follow these steps:   To add the XA Client 13.2.0 software site, click the Add button. Because the plugin is installed on your local file system, you must create a Local software site.  Fill the Name textbox with “X-Analysis13.2.0” and using the Local… button browse to the plugin installation location:  32-bit Windows: C:\Program Files\Fresche Solutions\X-Analysis\X-Analysis13.2.0\Eclipse  64-bit Windows: C:\Program Files (x86)\Fresche Solutions\X-Analysis\X-Analysis13.2.0\Eclipse  The dialog should look like that:  Fig. 5.1.1 – XA Client 13.2.0 software and plugin  From version 13.2.13, if the User installs the XA Plugin from RDi, the user must type the Name textbox with “X-Analysis 13.2.13” and using the Local… button, browse to the plugin installation location:  32-bit Windows: C:\Program Files\Fresche Solutions\X-Analysis\X-Analysis13.2.13\RDi  64-bit Windows: C:\Program Files (x86)\Fresche Solutions\X-Analysis\X-Analysis13.2.13\RDi  The dialog should look like that:  Fig. 5.1.2 – XA Client 13.2.13 software and plugin  Similarly, if the User installs the XA Plugin from RDi, the user must fill the Name textbox with “X-Analysis 13.2.13” and using the Local… button, browse to the plugin installation location:  32-bit Windows: C:\Program Files\Fresche Solutions\X-Analysis\X-Analysis13.2.13\Eclipse  64-bit Windows: C:\Program Files (x86)\Fresche Solutions\X-Analysis\X-Analysis13.2.13\Eclipse  The dialog should look like that:  Fig. 5.1.3 – XA Client 13.2.13 software and plugin  Press the OK button and back to the Available Software page.  You now have a new Software site definition to choose from using the Work with combo.  Using the Work With combo box, choose X-Analysis 13.2.13.  Fig. 5.1.4 – X-Analysis for IBM RDi  Fig. 5.1.5 – X-Analysis for Eclipse   1. Uncheck both the Group items by category and Hide items that are already installed. If Enabled, the software may not be listed. 2. Once you click Next, the wizard will validate your selection. 3. Review License agreements and then click Next. Check "I accept the terms in the license agreements." 4. Once the license agreements are accepted, click Finish. This will begin the download and installation of the new software. 5. You may be prompted to verify digitally signed content once the signature is detected. Accept the signature even if it is unsigned in the case of X-Analysis contents. 6. Once all the software is downloaded successfully and the necessary files installed into the product on the local computer, you will be prompted to restart the Workbench. Click Yes when asked to exit and restart the Workbench for the changes to take effect. 7. Once restarted, X-Analysis 13.2.13 should be shown in the available Perspectives. |

|  |  |  |
| --- | --- | --- |
| Uninstalling XA Plugin 13.2.0 Onwards from an Eclipse Application  The Uninstall wizard allows for the review and uninstalls items in your configuration. This wizard is shown when you select items and press Uninstall from the Installed Software page. To uninstall the software from your system:   1. If the Eclipse application was installed at the system level, the Eclipse application must be executed as Administrator. 2. Click Help > About and then click Installation Details... to open a dialog showing pages that provide more detail about your installation 3. Click on the Installed Software tab to see a list of the software items that are installed into your system. 4. Select the items that you wish to uninstall. In our case, it is X-Analysis 13.2.0. 5. Click Uninstall. 6. The Uninstall Details page will show X-Analysis 13.2.0. 7. Click Finish to start the uninstall. 8. Once all the software is uninstalled successfully, you will be prompted to restart the Workbench. Click Yes when asked to exit and restart the Workbench for the changes to take effect.  |  |  | | --- | --- | |  | If the Uninstall option is disabled, it indicates the user has not started the application as Administrator. | |

X-Analysis Licensing

Obtaining a License File

Before the X-Analysis server software can be used on the IBM i, a valid license file must be installed on the IBM i after the Server components are installed.

|  |  |  |
| --- | --- | --- |
| |  |  | | --- | --- | |  | If the users do not have a valid License file, either contact Fresche Solutions at [license@freschesolutions.com](mailto:license@freschesolutions.com) to obtain one or refer to the section “Obtaining the License File” in the document “X-Analysis\_User\_Manual” for this release. | |

If you already have a license file ready to install to the IBM i, proceed with the following section.

Applying a License File

Prerequisites

At this stage, X-Analysis Server software has been installed on the server and is waiting for a license to be installed. If not, proceed with the installation of the server software.

X-Analysis Client has been installed. If not, proceed with the installation of the client software first

|  |  |
| --- | --- |
|  | If there was already a license file installed on the server, the file will be imported from one version to the other. There is no need to re-install the license file. |

|  |  |  |
| --- | --- | --- |
| |  |  | | --- | --- | |  | For more details, refer to the section “Applying the License File” in the document “X-Analysis\_User\_Manual” for this release. | |

License file installation process using License Manager view

|  |  |  |
| --- | --- | --- |
| |  |  | | --- | --- | |  | For more details, refer to the section “License file installation process using License Manager view” in the document “X-Analysis\_User\_Manual” for this release. | |

License on Multiple Partitions

|  |  |  |
| --- | --- | --- |
| |  |  | | --- | --- | |  | For more details, refer to the section “License on Multiple Partitions” in the document “X-Analysis\_User\_Manual” for this release. | |

Uninstalling X-Analysis from IBM i

Uninstalling 12.1.X and Onwards Using XDLTRLS Command

Terminate all X-Analysis Client (Windows/Eclipse) sessions, if any. After terminating the X-Analysis client session, invoke a fresh 5250 session and check that none of the following libraries are in use:

* XAOBJxxxxx
* XDBTRTLOGS
* X2Exxxxx
* XADTAxxxxx

If you need to delete any maintenance release (12.1.x and onwards), add the XAPROD library in the library list and run the XDLTRLS command which will show all the X-Analysis releases installed on the server. If option 4 to delete X-Analysis version is taken on a version having a dependent X-Ref then an error message appears asking to upgrade all the X-Analysis libraries before deleting the X-Analysis version.

|  |
| --- |
| Alternatively user can also delete the cross-reference library. For more details, refer to the section [Removing the Cross-Reference Libraries](#_Ref2038135808). |

If there is no dependent X-Ref library on the X-Analysis version, only then it can be deleted by option 4. A job will be submitted when the deletion option is chosen on such release. When libraries are deleted, then pressing F5 or running the XDLTRLS command again will remove the reference of that version.

|  |  |
| --- | --- |
|  | After completing the X-Analysis uninstallation process, the XDBTRTLOGS library can be deleted manually. |

Uninstalling a Specific 12.0.X Version

Terminate all X-Analysis Client (Windows/Eclipse) sessions, if any. After terminating the X-Analysis client session, invoke a fresh 5250 session and check that none of the following libraries are in use:

* XAOBJxxxxx
* X2Exxxxx
* XADTAxxxxx

Terminate all open 5250 sessions using the above mentioned libraries. Remove the entry of the specific version being deleted from the XAXINSTVER table in the XAPROD library. Note that ‘xxxxx’ is to indicate the specific version no. – for instance, XAOBJ’12006’.

Uninstalling Pre-12 X-Analysis Versions

Terminate all the X-Analysis Client (Windows/Eclipse) sessions, if any. After terminating the X-Analysis client session, invoke a fresh 5250 session and check that none of the following libraries are in use:

* XAOBJ
* X2E
* XADTA

Terminate all open 5250 sessions using the above-mentioned libraries.

Uninstalling All X-Analysis Versions

Terminate all the X-Analysis Client (Windows/Eclipse) sessions, if any. After terminating the X-Analysis client session, invoke a fresh 5250 session and check that none of the following libraries are in use:

* XAOBJ, XAOBJxxxxx and XDBTRTLOGS
* XAPROD
* X2E and X2Exxxxx
* XADTA and XADTAxxxxx

Terminate all open 5250 sessions using the above-mentioned libraries.

Removing the Cross-Reference Libraries

Delete all the X-Analysis application libraries (cross-reference libraries), which were created using the XREFMENU command menu on the IBM i.

|  |  |  |
| --- | --- | --- |
| Use the command XDLTLIB to delete a cross-reference library - XDLTLIB XRFLIB(<Cross-Reference Library Name>)   |  |  | | --- | --- | |  | XDLTLIB is a custom command shipped as part of X-Analysis. The command is to be specifically used to delete cross-reference libraries only. The command detaches the journals, if any, and then performs DLTLIB. The command ensures that the user is not notified about the journal before deleting the library. | |

After deleting all X-Analysis application libraries, remove the supplied Tutorial Application – XAN4CDXA, and its data libraries – XAN4CDEM, X2EGEN, and X2EMDL.

XAN4CDEMCU and XAN4CDEMPT demo libraries can also be deleted if they exist.

Uninstalling the Product Libraries

After the application libraries are deleted, remove the following product libraries:

* XAPROD
* XAOBJ, XAOBJxxxxx
* X2E, X2Exxxxx
* XDTA, XADTAxxxxx

Use the following command to delete libraries: DLTLIB LIB(<Library Name>).

Deleting the above-mentioned libraries removes X-Analysis from your IBM i.

Note that the X-Analysis server installation creates one directory "XANALYSIS" having Java classes (Utilities developed in Java Only) in the IFS folder.

Deletion of directory "XANALYSIS" will not impact any other process. Hence, the directory can also be deleted if other libraries with names beginning with "X" have been deleted from the IBM i server.

Uninstalling the Client Software

Uninstalling X-Analysis Client (Version 12.1.0 And Up)

There are two methods for uninstalling an X-Analysis client version

* From Control Panel->Programs and Features, select the version of X-Analysis to uninstall and right-click on ‘Uninstall’ or
* Select the 'Uninstall X-Analysis' from the X-Analysis program group.

The client software will be removed from the machine.

The X-Analysis plugin will be uninstalled from the Eclipse location that was specified at installation time. Before proceeding to uninstall, the user must remember to close the X-Analysis perspective and, finally the workbench.

**IMPORTANT:**

If the plugin was manually installed in other Eclipse/RDi instances, the process WILL NOT uninstall the plugin from these applications, and X-Analysis will continue to work.

For uninstallation instructions, refer to X-Analysis Installation in the Multiple Eclipse/RDi instances chapter.

Uninstalling X-Analysis Client (pre-Version 12.1.0)

In the case of a version prior to 12.1.0 is installed along with another version of X-Analysis:

* After a version prior to 12.1.0 is uninstalled, launch ‘Clean start Eclipse’ (with Run as administrator) for Eclipse to choose the details of uninstalling/install to perform.
* If a user has three versions of X-Analysis and wants to remove all of those and install the fourth one, uninstallation should be done in decreasing order of versions. Launch Eclipse in Clean mode after each task to update the Eclipse about the tasks performed.
* Ideally, after any installation and uninstallation of X-Analysis, the Eclipse must be launched with 'Clean Start' in administrator mode to update the Eclipse with the tasks performed.

API Server Troubleshooting

This section details with the various cases of troubleshooting of API Server.

* [API Server Terminates after Start](#_Ref422949131)
* [Non - API Server / Fall Back Mode](#_Ref-1444234136)

API Server Terminates after Start

The ports used by the X-Analysis API server are specified in the /XANALYSIS/V13300/api-server/ports.yml file. If any of those ports are already in use by some other service on the IBM i then the X-Analysis API server will fail to start. In such a case, the submitted job details will get written to xaserver.txt IFS file, but the X-Analysis API server job will soon terminate.

The X-Analysis API server log file /XANALYSIS/V13300/api-server/xaserver.log will indicate the cause as the Port was already in use. Refer to the screen displaying the log file.

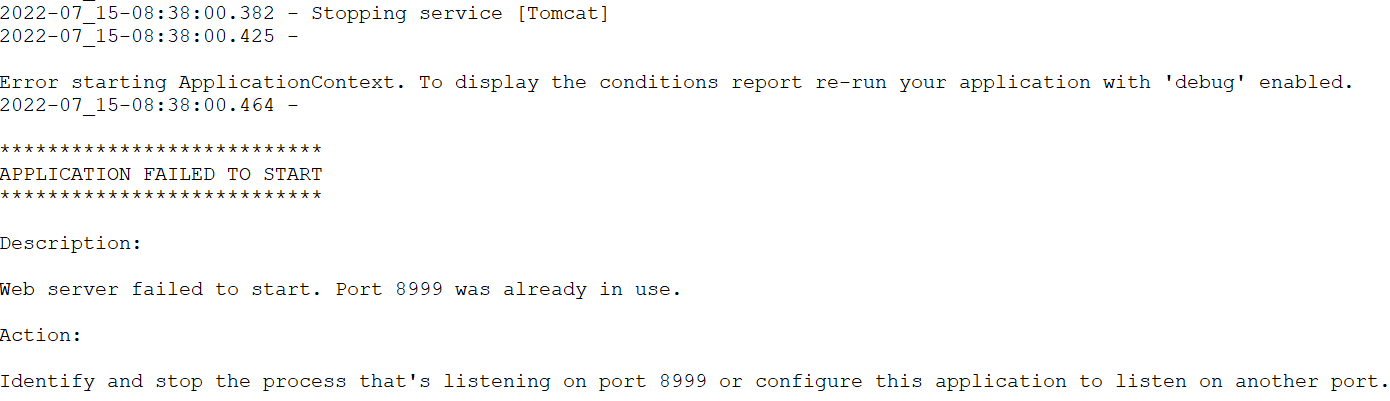


Fig. 6.1.1 API Server Log File

To resolve this a user need to perform the following steps:

1. Modify the port number manually in the ports.yml file
2. Start the API server, and
3. Manually specify the same port in the X-Analysis Client.

Non - API Server / Fall Back Mode

On X-Analysis Client, if any problem occurs while using the API server mode, the following dialog is presented and the Client automatically switches to the non-API server (or the fallback) mode. Refer to the screen below.

|  |
| --- |
| Fig. 6.2.1 – Fall Back Mode |

From here on, all the Client requests to the API server are turned off and use the non-API Server mode without any issues.

|  |  |
| --- | --- |
|  | The non-API Server mode will continue until either the Application List is fetched or some cross-reference is re-expanded. |

In case the dialog still appears during Application List refresh or Cross-reference expansion and blocks the action, then turn off the API server mode to use the non-API server mode.

* Select Ctrl+Shift+Up arrow to get the Feature Configuration dialog
* Uncheck Use API call implementation option
* Save the change

Installation Troubleshooting

The X-Analysis installation client (MSI) creates log files during installation and the uninstallation process. These files are described in the [Installation Details And Log Files](#_Ref2048950530) section.

The installer itself can produce more detailed log files that will help Fresche Support to troubleshoot problems. To obtain a detailed log of the X-Analysis setup, perform the steps below:

1. Paste "msiexec -i XAPluginSetup<Version>.msi /lv\* C:\XASetup.log" (minus the quotes) on the command prompt and press Enter.
2. Wait until the X-AnalysisSetup completes or ends prematurely.
3. In this example, X-AnalysisSetup.log is created in the C:\ drive.

Send appropriate log file(s) to [Support@freschesolutions.com](mailto:support@freschesolutions.com) to help us support you better.

The installer behaves differently depending on previously installed X-Analysis versions. All the various cases are discussed as follows:

Installation Cases

**Case 1: If a version prior to 13.x is detected on the Machine**

A dialog gets displayed to inform the user that X-Analysis Client 13.x is installed on the machine so that the installation will continue as System Space Installation. If a user wants to install 13.x MSI in the user's space, then all the previously installed X-Analysis Client needs to be removed and a clean Eclipse environment for X-Analysis/RDi/User Eclipse needs to be provided for the 13.x installation.

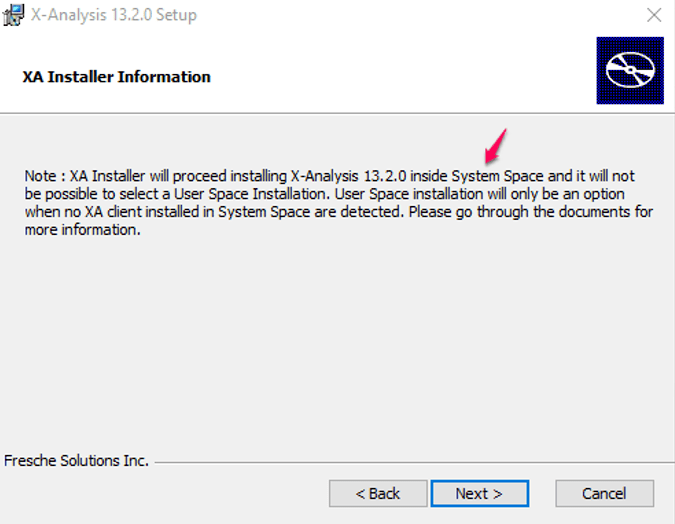


Fig. 7.1.1 – X-Analysis Setup

**Case 2: If no version was found on the Machine**

In the Installation Type dialog, “Everybody” is selected by default.

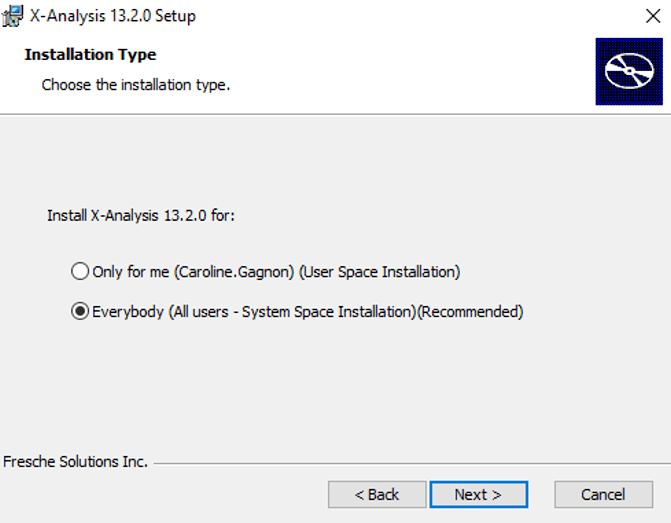


Fig. 7.1.2 – X-Analysis Installation Type

**Case 3: If a 13.x version is installed on the Machine**

A dialog gets displayed to inform the user that X-Analysis Client 13.x is installed on the machine so that the current installation type is picked up.

In case the type of installation type must be changed, the X-Analysis versions must be uninstalled, and all targeted Eclipse/RDi/User Eclipse should be in a clean state to undergo the change in installation type.

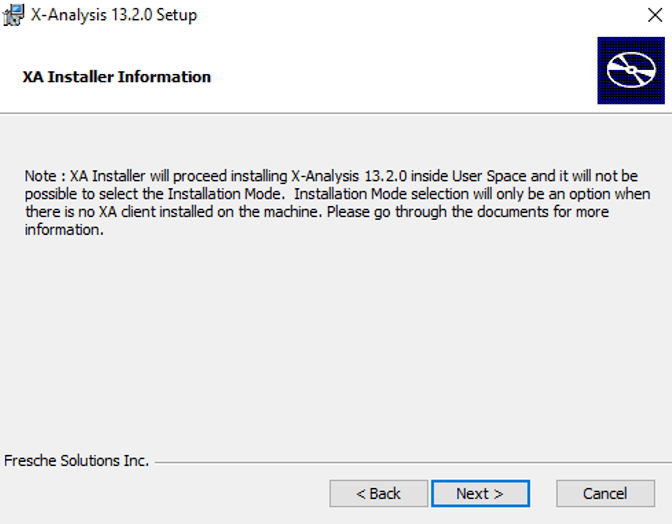


Fig. 7.1.3 – XA Installer Information

In this example, a version was found in User space, so the installation will continue within the User space. The same, if a version is found in System space, the version will be installed in System space.

**Case 4: Any 12.x version installed after installing 13.x inside "User's Space"**

This case is not supported.

**Case 5: Any 12.x version is installed after installing 13.x inside "System Space"**

This will not affect the installed 13.x X-Analysis Client. All the versions will continue to work properly.

Uninstallation Cases

**Case 1: Uninstalling 12.x X-Analysis Client when 13.x is installed inside User's Space on the Machine**

* Eclipse Juno – 13.x Client is affected and only 12.x versions will be working.
* Eclipse Luna or above – 13.x Client is affected but a dialog displays to alert users to re-install the plugins.

**Solution:**

In both cases, the user can execute the XAUSERInstallPlugins.cmd script to get the 13.x version back. XAUSERInstallPlugins.cmd script will be created inside <Installation\_Folder>\X-AnalysisX.Y.Z\Eclipse folder. On executing this script, the XAInstallPlugins.log file will be created.

|  |  |
| --- | --- |
|  | XAUSERInstallPlugins.cmd can bring the plugins back only if it has been installed correctly before and any System space installation has removed it. If the plugins are not installed correctly by the installer, then XAUSERInstallPlugins.cmd won't be able to fix this. |

**Case 2: Uninstalling 13.x X-Analysis Client when 12.x is installed on the Machine**

Other 12.x X-Analysis Client will continue to work after this uninstall.

X-Analysis Installation Removes Other User Plugins in RDi

This information applies to RDi Eclipse or any Eclipse that has plugins installed in the user’s space like TD/OMS, Subversion, or others placed within the restricted folder under the “eclipse” directory. Any X-Analysis installation in the system space could make these plugins unavailable to the targeted Eclipse. As a result, the next startup of the Eclipse/RDi instance will display the following wizard to the user.

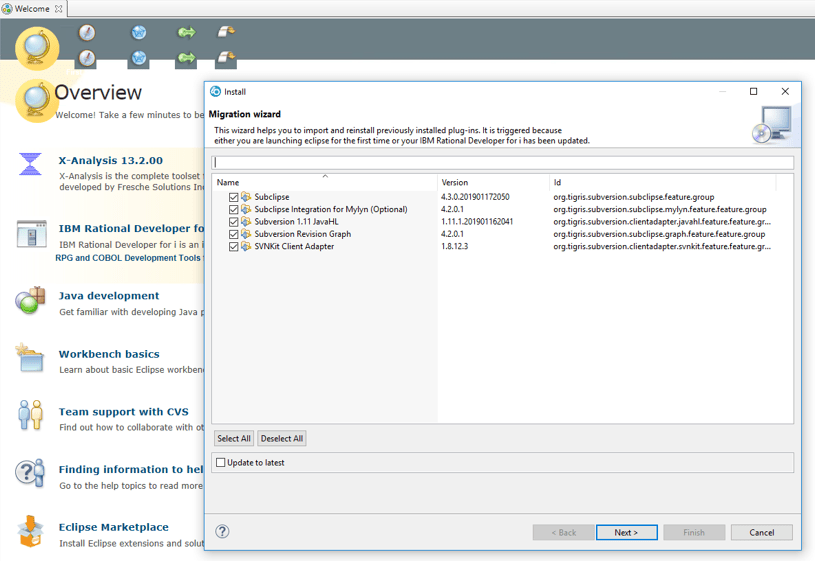


Fig. 7.2.1 – TD/OMS Subversion

This wizard is displayed only once after installing/uninstalling any version of X-Analysis. The user must follow the wizard to reinstall plugins. If this is not done, the plugins will not be available anymore in this RDi instance.

If X-Analysis is installed in the user space, this situation will not occur. Please refer to the above section to check whether the user space installation is possible.

X-Analysis Installation Error When Minimum OS Requirement is not Met

When X-Analysis 13.2.0 (and onwards) is restored (using RSTLIB command) on OS prior to V7R1M0, an error occurs as all saved objects are set to target release higher than V6R1M0.

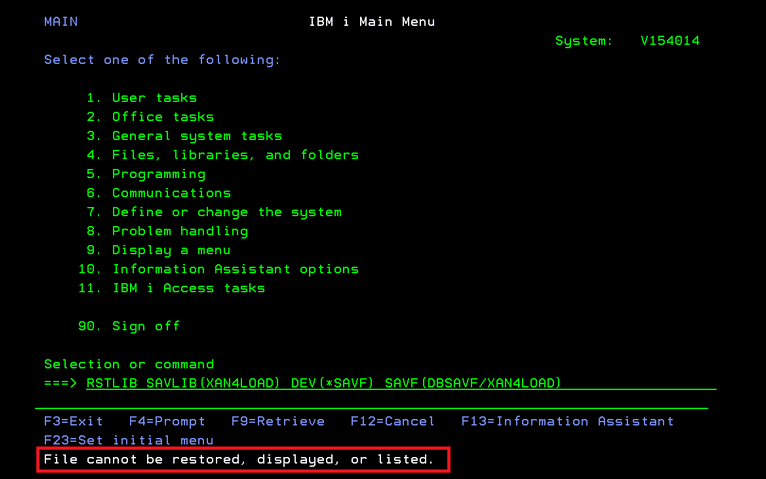


Fig. 7.3.1 – Window showing restoring error

The user can press F1 on the error line and get more information regarding the error as shown below:



Fig. 7.3.2 – Error Details

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