

Initialising X-Analysis

GUIDE

Software Version: 10.0

**This product requires a security code to activate it.
For Security Code, please call Databorough**

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Toll Free: 1 800-361-6782**

Europe: (44) 1932 848564

Alternatively contact Databorough by email at:

**support@databorough.com
Or
info@databorough.com**



Databorough

A Division of FRESCHE LEGACY

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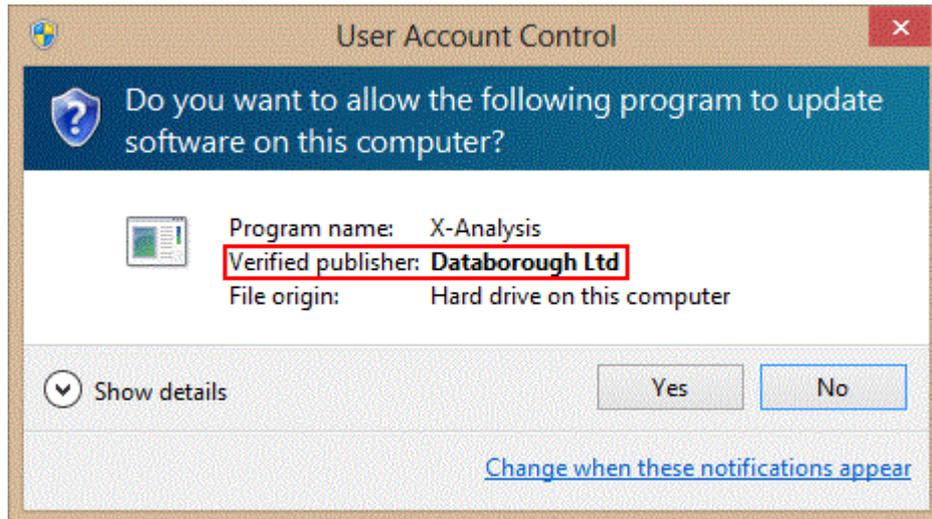
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Important Note

The X-Analysis library structure has changed. XAOBJ is the only library to use. AFTER THE UPGRADE IS COMPLETED SUCCESSFULLY, the older libraries, XAN4 and XREV, should be removed from the system.

X-Analysis release 10.x onwards is digitally signed.



License Code Request Form



License Code Request Form

Kindly complete and confirm the details below and fax this form to: +44 **1932 859211**
 Alternatively, this can be emailed to admin@databorough.com

Company	
Contact name	
Contact email	
Telephone	
Fax	
Address	
Post Code	
Country	
AS/400 Serial No.	
Model	
Processor Group (WRKLCINF)	
Purchase Order No.	
Agent or Distributor	
Comments	

If software is required to be sent and the AS/400 is not located at the same address as indicated above please provide the appropriate delivery address and contact details below.

AS/400 Contact			
Contact email			
Telephone			
AS/400 Address			
Post Code		Country	

Requested By	Date
--------------	------

Position _____

Unit 12b, Haland House, 66 York Road, Weybridge, KT13 9DY, United Kingdom Tel: +44 (0) 1932 848564
 Company Registration Number: 01795263 VAT number: 492 6942 05

License Transfer Request Form



License Transfer Request Form

Kindly complete and confirm the details below and fax this form to: +44 **1932 859211**

Alternatively this can be emailed to admin@databorough.com

Company	
Contact name	
Contact email	
Telephone	
Fax	
Address	
County	
Post Code	
Country	
Current System i Serial No.	
Processor Group (WRKLCINF)	
Feature Code	

Please indicate the details of the new machine below.

New System i Serial No.	
Processor Group (WRKLCINF)	
New Feature Code	
Purchase Order No.	

A minimum administration fee of £1,500 is charged for any license transfer. An additional fee may be charged on the basis of the upgrade of the original processor band.

Declaration:

I/We hereby confirm that with effect of _____ (MM/DD/YY) the license purchased for system _____ will be transferred to system _____ and subsequently completely removed from the old system.

Requested and confirmed by	Date
----------------------------	------

Position _____

Unit 12b, Haland House, 66 York Road, Weybridge, KT13 9DY, United Kingdom Tel: +44 (0) 1932 848564
 Company Registration Number: 01795263 VAT number: 492 6942 05

Post Installation Activities

Obtain & Apply the License Code

Before the X-Analysis server software can be used on IBM i, the correct License Code must be entered. Please obtain the License Code from Databorough by submitting the License Code Request Form. In the case of transferring the license to other individual(s), fill the License Transfer Request Form.

If the License Code has been received, please check that the machine number stated on the License Code Form is same as the machine number on which the X-Analysis is installed. In case there is a discrepancy, please contact Databorough at info@databorough.com.

To enter the License Code:

1. Add the library XAOBJ to the Library List:

ADDLIBLE (XAOBJ)

2. Enter the command

X@PSW

3. Now type the License Code supplied and press **ENTER**

Note: If an existing License Code has been stored in a temporary library during the installation procedure, copy it back to the **XAOBJ** library.

Store the security code form in a safe place.

Profile Authority Requirements

The initialisation process makes extensive use of various IBM i commands like CRTDUPOBJ, CRTPF, CRTLF, DLTF, RGZPFM, RTVMBRD, CRTLIB, CLRLIB, RSTLIB, DLTLIB, DSPFD, DSPFFD, DSPPGMREF, DSPDBR, CLRPFM, CPYF, CRTDTAARA, RTVOBJD, ALCOBJ, DLCOBJ, DLTUSRIDX, DSPOBJD, RTVSYSVAL, RTVDTAARA.

It is recommended to use the QPGMR profile or someone in the QPGMR group to run the X-Analysis jobs.

Regardless of the profile used, it should have the following authorities:

- The profile must have a *USE authority to all of the commands listed above.
- For the Source and the Object libraries specified during the setup – The profile used requires object operational (*OBJOPR) authority to all the programs and the files in these libraries. The profile also requires execute (*EXECUTE) authority on all of these libraries.
- For the X-Analysis cross-reference library – The profile used must have full rights to this library. If you do not use the QPGMR profile, you must make sure that the profile used has *ALL rights to all objects in the supplied X-Analysis libraries.

Configure Application Libraries

Prepare the application libraries on IBM i for which you wish to create the cross-reference library. The cross-reference library created using X-Analysis is listed on the Client software.

Configure Cross-Reference Library

After having configured the application libraries to use, run the X4WRKAPP command to add and initialise the cross-reference library. For more details refer to [Configure Cross-Reference Library](#) section.

Work with the X-Analysis Client Software

After configuring the cross-reference library and installing the X-Analysis Client software, you are ready to use X-Analysis. Start X-Analysis on your PC and provide the connection details to connect to the IBM i. Once the connection is established, you shall see the configured cross-reference library/libraries on the X-Analysis Client. Refer to the [Working with X-Analysis Client](#) section.

Configure Cross-Reference Library

Before the X-Analysis Client software can be executed, the cross-reference library, i.e. the application repository, has to be built. The initialisation process takes care of setting up of the cross-reference library. The X-Analysis Application Overview (X4WRKAPP) interface is used to initialise the X-Analysis libraries. Before opting for the initialisation process, the following steps have to be executed:

- Set the library list
- Work with the X-Analysis for applications
- Libraries

Set the Library List

Change the Library List to ensure the following sequence:

- XAOBJ
- QGPL
- QTEMP

Use the command EDTLIBL to set the Library List.

EDTLIBL command screen

Edit Library List				System: DBSPW7	
Type new/changed information, press Enter.					
Sequence Number	Library	Sequence Number	Library	Sequence Number	Library
0		150		300	
10	XAOBJ	160		310	
20	QGPL	170		320	
30	QTEMP	180		330	
40		190		340	
50		200		350	
60		210		360	
70		220		370	
80		230		380	
90		240		390	
100		250		400	

Work with X-Analysis for Applications

We just learnt how to set the Library List as the first step of Configure Cross-Reference Library. The next step is to open/start the X-Analysis master command.

Type the command **X4WRKAPP** and press **Enter**.

The following similar screen is displayed:

X4WRKAPP command screen

```

X-Analysis/4          Work with X-Analysis/4 Applications      Databorough Ltd.
XARWKAPP                                                     12:51:30
                                                            05 Oct 2012

Enter options, press Enter.
1=Authorities 2=Change 3=Copy 4=Delete 5=Display 7=X-A Log 8=Libraries
9=Variable Calls 10=App areas 11=Reports 12=Initialise 13=Build data model
14=Refresh 15=Gen Business Rules 16=Exclusions 17=Reengineer Pgms 18=Pgm Stds

   X-ref Lib   Text                               Company/division

   XAN4CDXA   XAN4CEM Tutorial System

F1=Help   F3=Exit   F6=Add   F10=Cmd Line   F12=Cancel   F24=More Keys
  
```

The X4WRKAPP is the master command menu of the X-Analysis server software. The first step is to add a new cross-reference library. Press the **F6** button to add a new cross-reference library.

X4WRKAPP - Add Application screen

```

X-Analysis/4          Work with X-Analysis/4 Applications      Databorough Ltd.
XARWKAPP                                                     12:51:30
                                                            05 Oct 2012

X-ref Library. . . . .
Text . . . . .
Company/division . . . . .
Index src files. . . . .      Y
Process var & bound calls. . .      Y
Include obsolete source . . .
Build data model . . . . .
Data model match value . . .
TCPIP address . . . . .
User id . . . . .

F1=Help   F3=Exit   F12=Cancel
  
```

The **F6** option will add an entry to the list of the **X-Analysis/4 Applications** and create a new (empty) cross-reference library. You must specify a cross-reference library name (for example *CUSLIBXA*). You can optionally specify text and a company name.

X4WRKAPP - Application added

```

X-Analysis/4      Work with X-Analysis/4 Applications      Databorough Ltd.
XARWKAPP                                                12:51:30
                                                         05 Oct 2012

X-ref Library. . . . . CUSLIBXA
Text . . . . . Production Library
Company/division . . . . . Databorough Limited
Index src files. . . . . Y
Process var & bound calls. . . . . Y
Include obsolete source . . . . .
Build data model . . . . .
Data model match value . . . . .
TCPIP address . . . . .
User iD . . . . .

F1=Help          F3=Exit          F12=Cancel
    
```

Press **Enter** to proceed further.

Libraries

In the previous step we successfully added a new cross-reference library. Now we can provide the Library information.

We need to add the Source and the Object libraries to the cross-reference library. The initialisation process generates the repository by reading these libraries.

Select **Option 8** to assign the Source, the Object and/or the Model (2E) libraries.

X4WRKAPP Libraries Screen

```

X-Analysis/4      Work with X-Analysis/4 Application Libraries      Databorough Ltd.
XARWKLIB                                                12:59:23
                                                         05 Oct 2012

Selected x-ref Library -> :   CUSLIBXA

Enter options, press Enter.
2=Change      4=Delete      5=Display

Type Sequence Library

F1=Help          F3=Exit          F6=Add          F12=Cancel      F16=Print
    
```

The sequence of the libraries is important as the objects and the sources are given preference according to the order of the libraries. Only the first occurrence of the object/source gets reported. Subsequent occurrences are omitted by the initialisation process.

Press the **F6** button to add the names of the Source / Object / Model libraries associated with the application and press **Enter**. Repeat the step if the application consists of multiple libraries.

X4WRKAPP - Add Library Screen

```

X-Analysis/4   Work with X-Analysis/4 Application Libraries   Databorough Ltd.
XARWKLIB                                           12:59:23
                                                    05 Oct 2012

X-ref library.      CUSLIBXA
Type . . . . .      0          (O=Object,S=Source,M=2E Model)
Sequence . . .      1
Library. . . . .    CUSLIB

F1=Help           F3=Exit           F12=Cancel
    
```

The Type may be any one of the following:

- O=Object
- S=Source
- M=Model

Source & Object Libraries

While the source library contains the un-compiled source files, the object library comprises the compiled objects for the same.

Specify the libraries containing both source and object as O and S types. See the setting on the 'XAN4CDXA - Tutorial Application'. It has XAN4CEM specified as 'O' and 'S' types.

Cool/2E (Synon Model) Libraries

In order to analyse a Synon application, the model library/libraries need(s) to be specified. This can be done by putting the library type as **"M"**. The Initialisation process picks the data model information from the Synon model library/libraries while building the cross-reference repository.

Press the **F3** button when the libraries are included.

Initialisation

The initialisation process can now be executed. From the master command (X4WRKAPP) screen, select **Option 12** against the cross-reference library for initialisation.

```

                Initialise X-Analysis/4 (XAXREF)

Type choices, press Enter.

X-Analysis Library . . . . . > CUSLIBXA      Name
Object Libraries . . . . . *SPECIFIED      Name, *SPECIFIED
      + for more values
Source Libraries . . . . . *SPECIFIED      Name, *SPECIFIED, *NONE
      + for more values
Index Source Files . . . . . *CHG          *CHG, *NO, *ALL, *UPG
Build Data Model . . . . . *NO            *YES, *NO
Generate Business Rules . . . . *NO        *YES, *NO
Initialise X-Resize . . . . . *NO          *YES, *NO
Include obsolete source/object . *NO          *YES, *NO

F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
    
```

The user can change the default job queue (QBATCH) by changing the job description for XAOBJ/XAN4. Use the following command to change the job description:

WRKJOB JOB(XAOBJ/XAN4)

The user should also change XAOBJ/XDMJOB, as this is used by Option 13=Build Data Model on X4WRKAPP (for XDMODEL command).

It is recommended that the parameters 'Generate Business Rules' & 'Initialise X-Resize' are both set to *NO, so as to avoid unnecessary delay in initialising the X-Analysis repository. Both these jobs can be run later.

X-Analysis Library	The X-Analysis cross-reference library name
Object Libraries	*SPECIFIED is the default value. It means that X-Analysis will retrieve all the object libraries you have previously specified (using Option 8).
Source Libraries	*SPECIFIED is the default value. It means that X-Analysis will retrieve all the source libraries you have previously specified (using Option 8).
Index Source files	Specify whether or not to create indexes over the source files. These indexes will allow the immediate display of "Where Used" data. They may be required for the generation of the data model, depending on what options are selected. If the indexes are not built now they can be built later for an individual Source Member, when they are viewed through the X-Analysis browser. Select one of the following: <ul style="list-style-type: none"> • *CHG - Only update current indexes. It will find newly added source members and remove deleted members. It will also index any source member that has changed since the last initialization. • *NO - Do not build the indexes • *ALL - It is similar to *CHG when it comes to finding new members and removed members. It will index all source members without checking the

	<p>change date.</p> <ul style="list-style-type: none"> *UPG - Upgrade the X-Analysis database and rebuild all data including all indexes (replacing current ones).
Build Data Model	<p>Choose an option to build the data model for your application:</p> <ul style="list-style-type: none"> *YES - Build the data model *NO - Do not build the data model <p>You should have the X-Rev Module/Modelling set for this to work.</p>
Generate Business Rules	<p>Choose an option to generate the business rules for your application:</p> <ul style="list-style-type: none"> *YES - Generate Business Rules *NO - Do not generate Business Rules <p>You should have the X-Extract Module/Design recovery set for this to work. If choosing *YES, Modeling should have been already performed or Build Data Model should be *YES.</p>
Initialise X-Resize	<p>Choose an option to generate the X-Resize Project for your application:</p> <ul style="list-style-type: none"> *YES – Initialise X-Resize Project *NO – Do not initialise X-resize Project <p>You should have the X-Resize Module for this to work.</p>

Press **Enter** to submit a batch job to start the initialisation process.

Generating the Data Model

You should attempt building the data model only if you have purchased the X-Rev Module/Modelling Set.

X-Analysis provides a data-modelling environment on the IBM i. It re-engineers a current application and then automatically generates the data model and the process model. The (logical) data model or entity relationship diagram is derived from the physical data model, which is implicit in the application.

The Initialisation procedure asks for generating the Data Model. If you have not generated the Data Model then the next step is to generate the Data Model. To do this, select **Option 13** on the **Work with X-Analysis Applications** menu.

X-Analysis/4	Work with X-Analysis/4 Applications	Databorough Ltd.
XARWKAPP		12:58:51
		05 Oct 2012
Enter options, press Enter.		
1=Authorities 2=Change 3=Copy 4=Delete 5=Display 7=X-A Log 8=Libraries		
9=Variable Calls 10=App areas 11=Reports 12=Initialise 13=Build data model		
14=Refresh 15=Gen Business Rules 16=Exclusions 17=Reengineer Pgms 18=Pgm Stds		
X-ref Lib	Text	Company/division
13 CUSLIBXA	PROD	Databorough Limited
XAN4CDXA	XAN4CDEM Tutorial System	

F1=Help F3=Exit F6=Add F10=Cmd Line F12=Cancel F24=More Keys

Press **Enter**.

```

                                Generate Data Model (XA4MODEL)

Type choices, press Enter.

X-Analysis library . . . . . > CUSLIBXA      Name
Data libraries . . . . .      CUSLIB        Name
                                + for more values
Model method . . . . .      *PGMLOGIC     *PGMLOGIC, *NAMES, *CA2E...

F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
F24=More keys

```

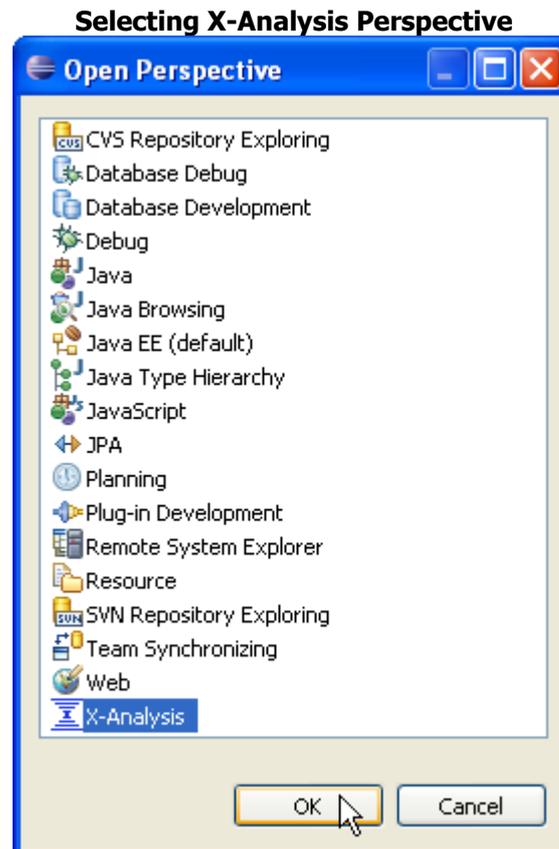
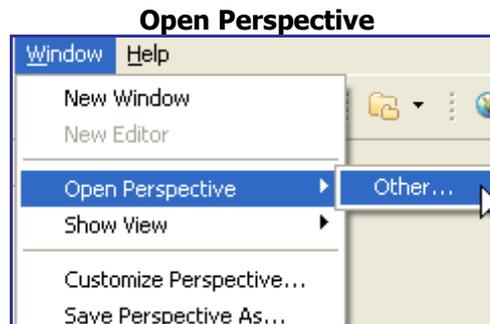
Press **Enter** to run the modelling command, which is executed in batch mode and completes the modeling process.

X-Analysis Library	The X-Analysis cross-reference library name.
Data Libraries	Specify the data library/libraries names.
Model Method	<ul style="list-style-type: none"> • *PGMLOGIC - Derive foreign keys from RPG/LE program logic. Relationships are only considered valid when foreign keys match all the components of the owning file's primary identifier. • *CA2E - The entire data model has been generated by Synon. Use only the Synon data model database to derive the data model. • *NAMES - Only derive foreign keys for owning relationships, taking into account the option specified in the 'Matching Method' parameter. • *BOTH - Derive foreign keys taking into account the Program Logic and the *NAMES OR Program Logic and *CA2E (in case of CA2E application).

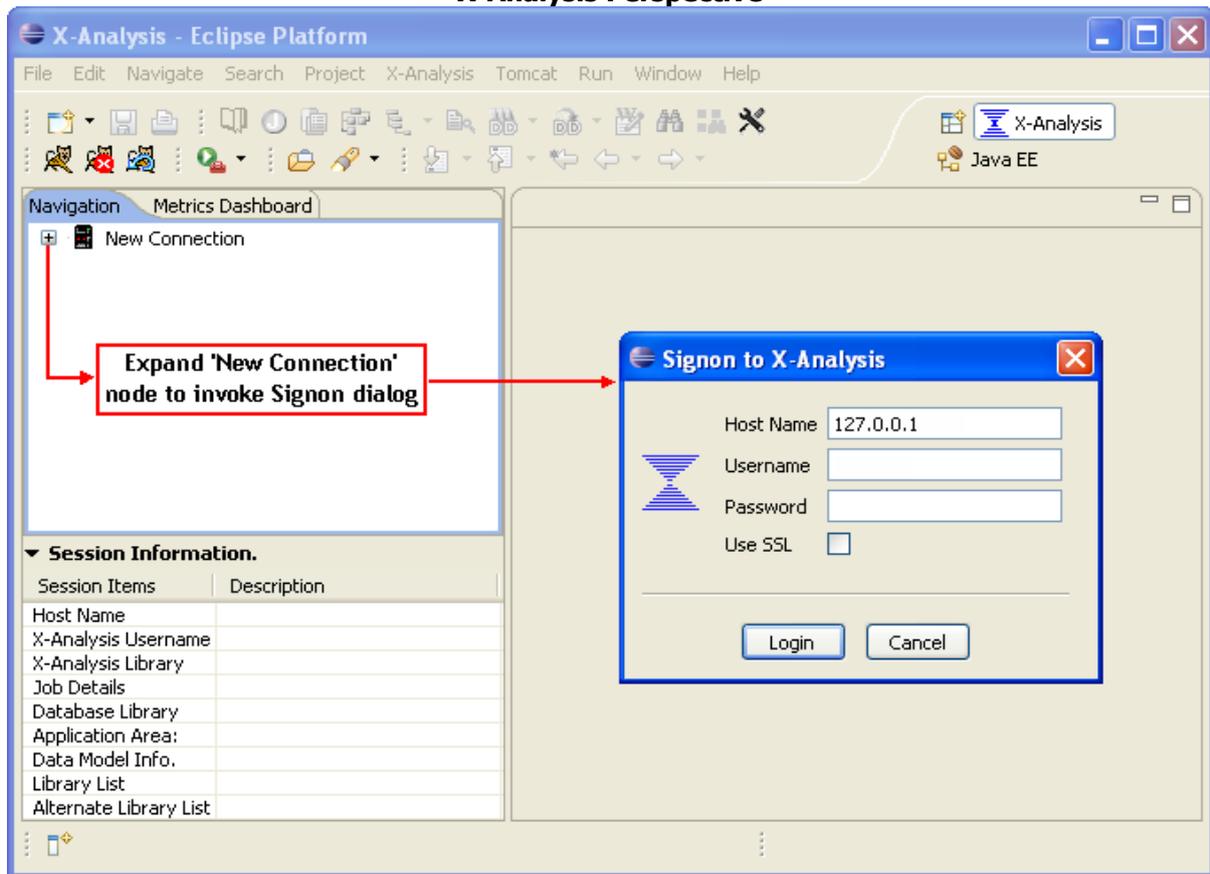
Work with X-Analysis Client

To start using the X-Analysis Client software, the user needs to opt for **Start>All Programs>X-Analysis>X-Analysis for Eclipse**. This step invokes the Eclipse workbench. Then select the X-Analysis perspective, if not already selected, using the following menu option:

Window > Open Perspective > Other > X-Analysis

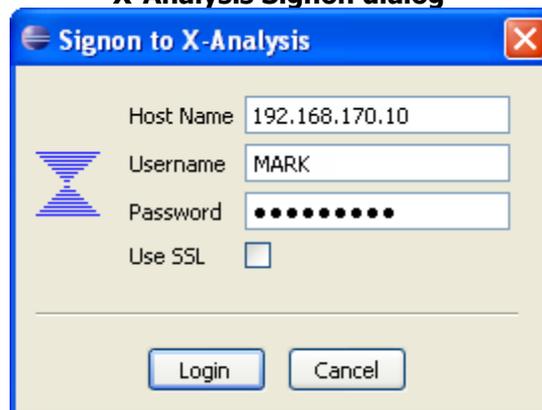


X-Analysis Perspective



Expand the **New Connection** node to bring up the X-Analysis signon dialog.

X-Analysis Signon dialog



Enter the following on the sign on dialog:

1. Enter the TCP/IP address, or the Computer Name to be accessed.
2. Provide username and password of a valid IBM i profile.
3. Check the box for 'Use SSL' feature for additional security. For details, refer to the X-Analysis User Manual.
4. Click the **Login** button.

The X-Analysis Client software displays the list of application libraries initialised using the X4WRKAPP command on the IBM i. To work with specific application/cross-reference, select or expand the cross-reference node.