

Oracle® Hospitality Query and Analysis
Installation Addendum
V05.006

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Q&A for MICROS Opera Installation Addendum V05.006
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Welcome to the Q&A for MICROS Opera Installation Addendum.

About This Document

Oracle Corporation acquired MICROS and all further references to MICROS should be considered as Oracle Corporation.

Document Objective

This document provides detailed instructions for carrying out the server-side installation and configuring Q&A security for MICROS Opera.

The document has been prepared for configuration via Users in Opera. As at 23 January 2004, the only model available is the User model. You are not able to configure by User Groups.

Assumptions

This installation addendum has been written with the following assumptions:

You have a working knowledge of Windows 98/2000/NT/XP and Windows conventions.

You have read and understood the Q&A Installation Guide with special emphasis on setting up Q&A Users and Profiles.

You are familiar with Opera User and User Group Configuration & have the necessary rights to Opera User Configuration and Q&A Setup.

To complete a non-invasive install you will need an understanding of the Opera utility, OPERA_SMT.exe.

Each Q&A client workstation or server must have the appropriate Oracle client installed.



Initialising the Database

After creating your connections (DSN) to the database, and before accessing the database through Q&A, you need to install certain objects on the database server. These objects, and their purpose, are listed later.

If you try to access a database where these objects have not been installed, or where the installed version is obsolete, then you will see a warning message when you log into Q&A, and you will not be able to proceed. It is **important** that these Q&A objects are refreshed following each Opera patch or upgrade. This requires no Opera downtime and can be done at any time, however all Q&A Users must be logged out. It is also **important** that after each Opera patch or upgrade that carries structural changes to the Opera schema, a refresh of the Vision synonym schema is completed once the Opera portion has been completed. This can be done via the OPERA_SMT.exe tool and can be seen in the figure attached to Point 5 on Page 5.

There are two ways of doing the server installation, namely,

Invasive, which are for demonstration/multi-schema installations only

Non-Invasive, for Live sites as this is more secure.

Note: Invasive installations are deprecated by MICROS. **All LIVE installations of the Q&A objects must be performed in a non-invasive manner.**

Non-Invasive Installation

Note: Before beginning a non-invasive installation, you must schedule some 'down time', to prevent locking problems which might otherwise interfere with the running of MICROS Opera. Two (2) hours of down time is recommended. This is a similar process to that used when installing Opera patches. **This includes shutting down any business processors such as the FORECAST PROCESSOR and ensuring ALL users are logged out and remain so..**

In a non-invasive installation, you install the additional objects in a separate schema, and connect this schema to Opera's own schema by means of synonyms.

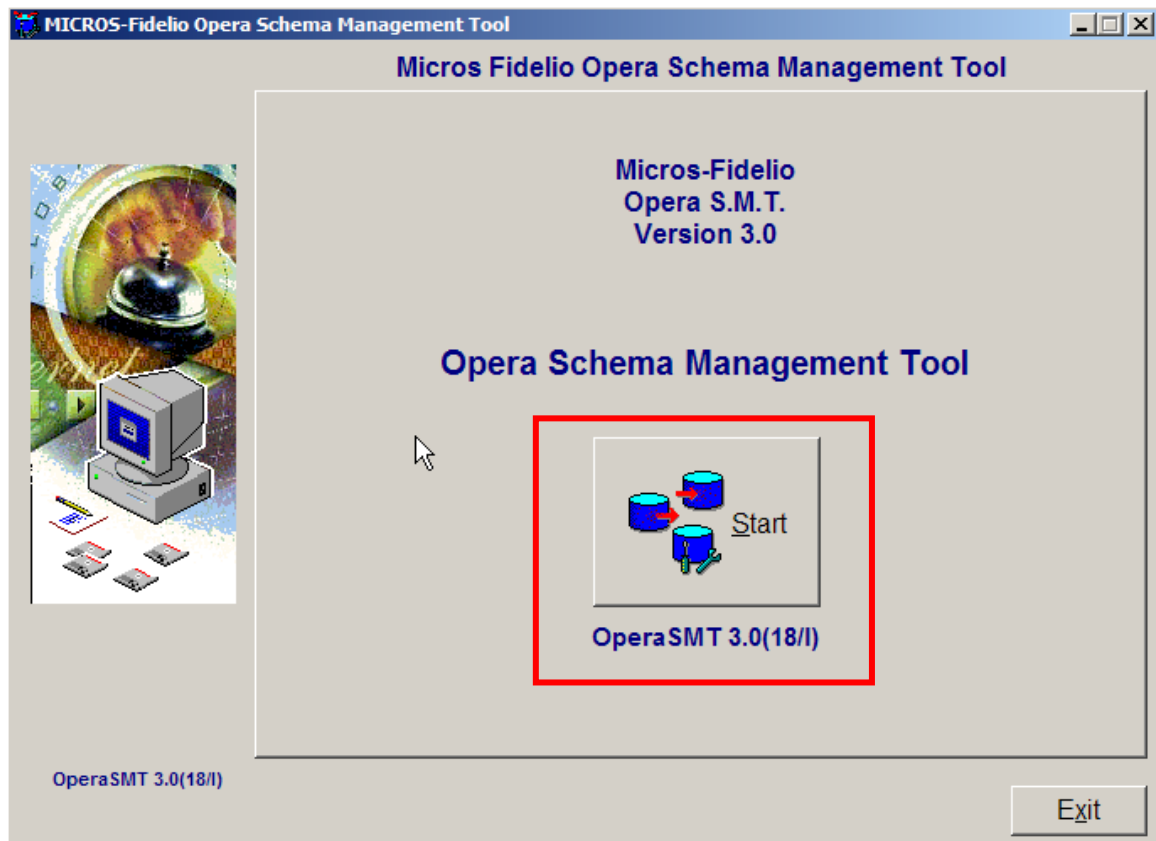
For this, you will need to be able to run the Opera utility OPERA_SMT.exe.

You must still perform steps 4 and 5 for those sites wishing to apply property or function based security to reporting.

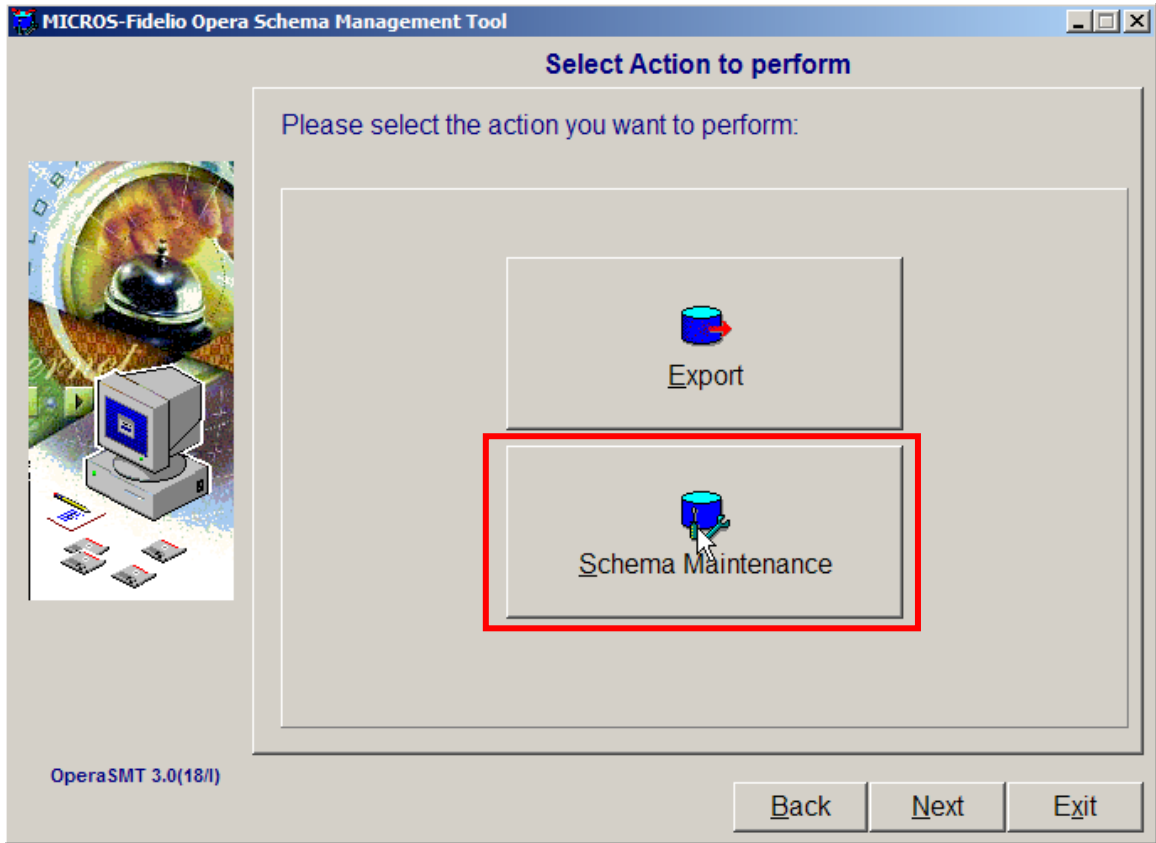
Installation Process Outline – Q&A for MICROS ONLY

1. Download latest Q&A version and Serduct software to both mapped network drive and install workstation/server
2. Ensure you have access to SQLPlus on the workstation/server and that the client TNSNAMES.ora file has the relevant entries for connection to MICROS Opera.
3. Ensure Q&A serialisation codes match Opera license details.

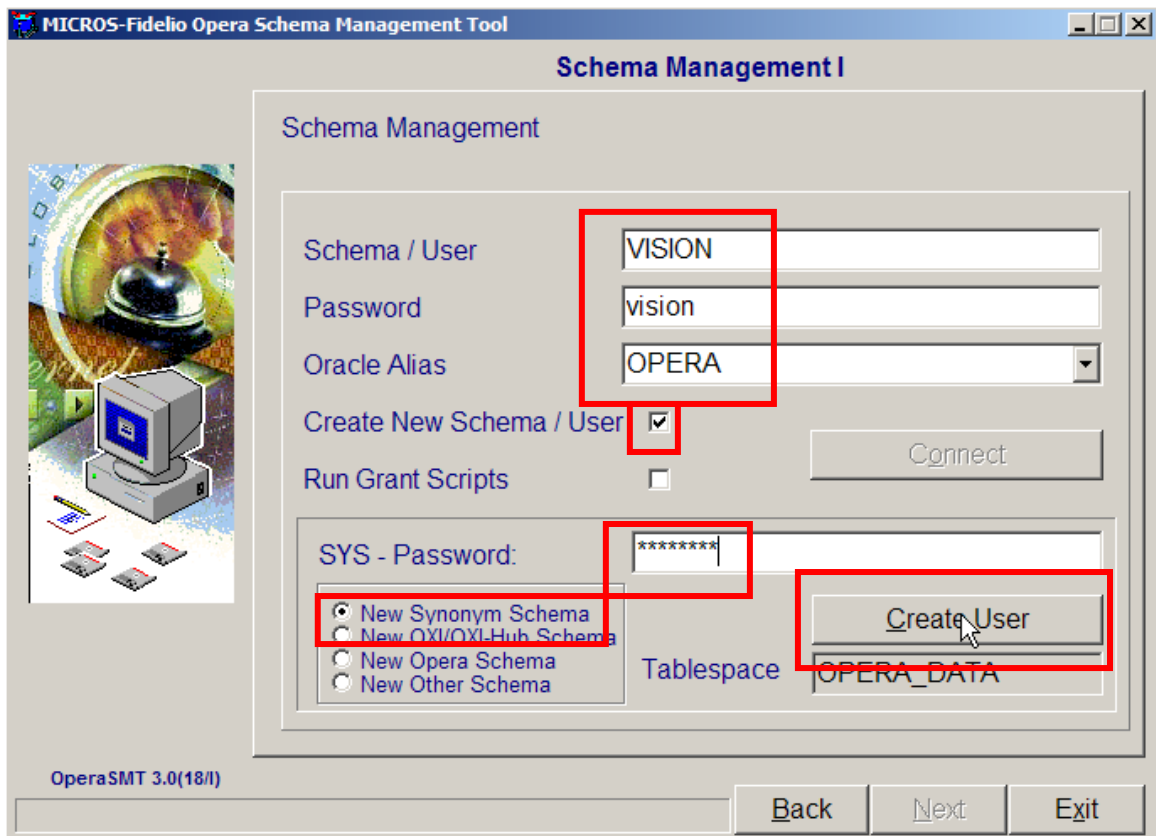
4. Ensure access available to the OPERA_SMT.exe. This is typically found in the \micros\opera\Tools directory usually on the Opera database server.
 5. Use OPERA_SMT.exe to create the Vision synonym schema.
 6. Run the Q&A Install Wizard to install the Q&A application.
 7. Test install via Q&A XL, logon name DEMO. Using a Detailed Report, output the Resorts from the Table Resorts.
 8. In MICROS Opera configure a generic Q&A user (i.e. Q&A), several role/department based users (i.e. Q&A Admin, Q&A Reservations, Q&A Finance, Q&A HK etc) or amend existing Opera users to include Reporting {Q&A} (i.e. Peter Smith, Alan Jones).
 9. In Q&A Setup, configure a Q&A Profile or Profiles to match those in Opera. Lastly create Q&A Users linked to the relevant Q&A Profile.
1. Using the OPERA_SMT.exe, create the Vision synonym schema as follows. Open OPERA_SMT.exe.



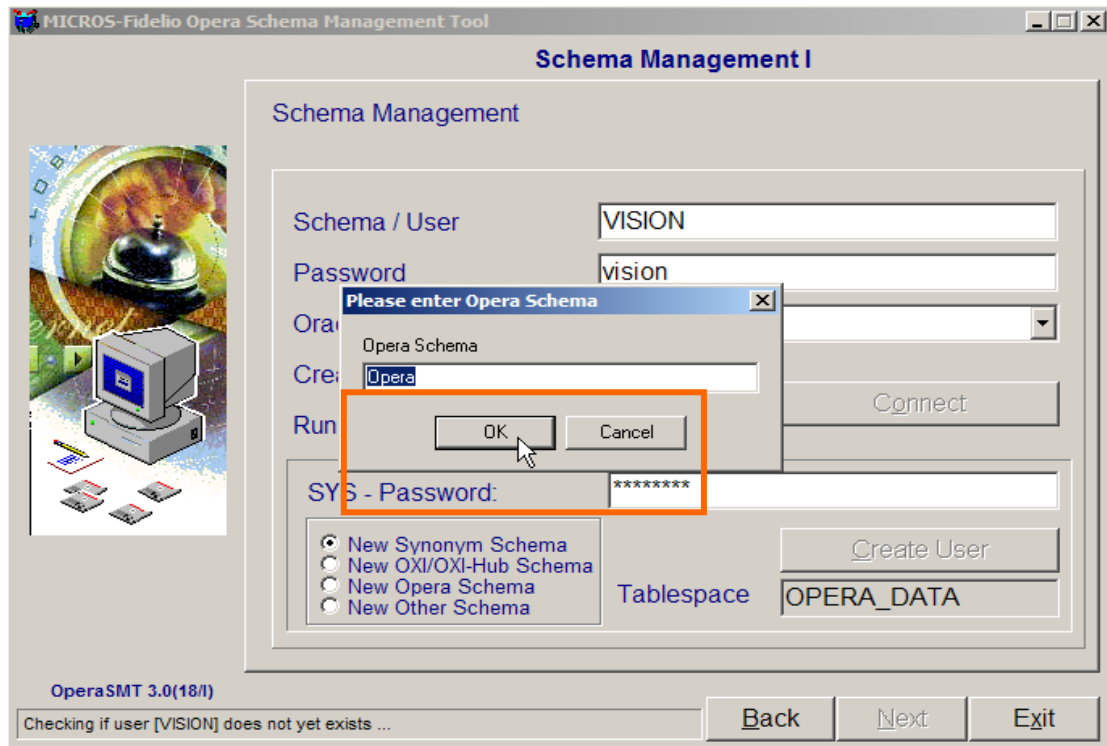
2. Click on Start. You may get a question to search for updates and upgrade. Click OK for this. Then take the Schema Maintenance option.



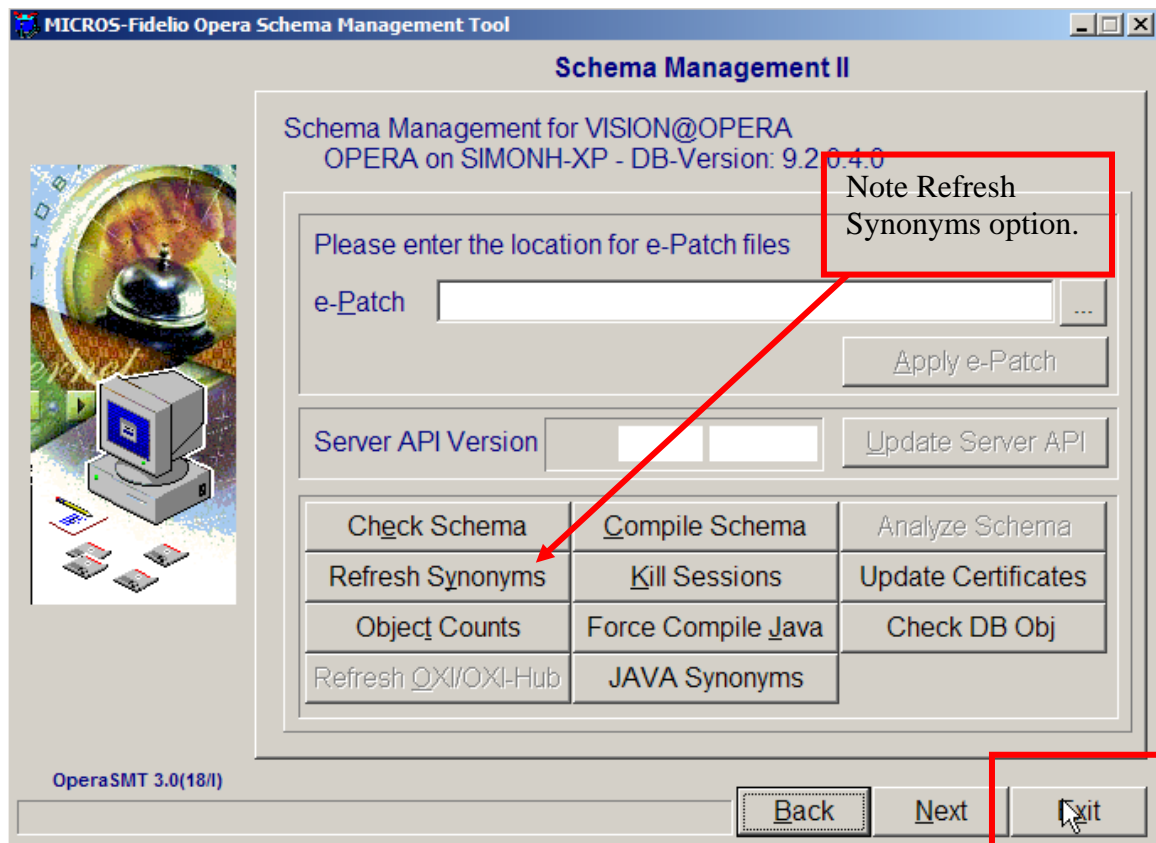
- Next complete the screen as per below. The Schema/User is VISION, Password is vision, check the Create New Schema/User box, enter the SYS password for the OPERA database, ensure New Synonym Schema radio button is ON and click on Create User.



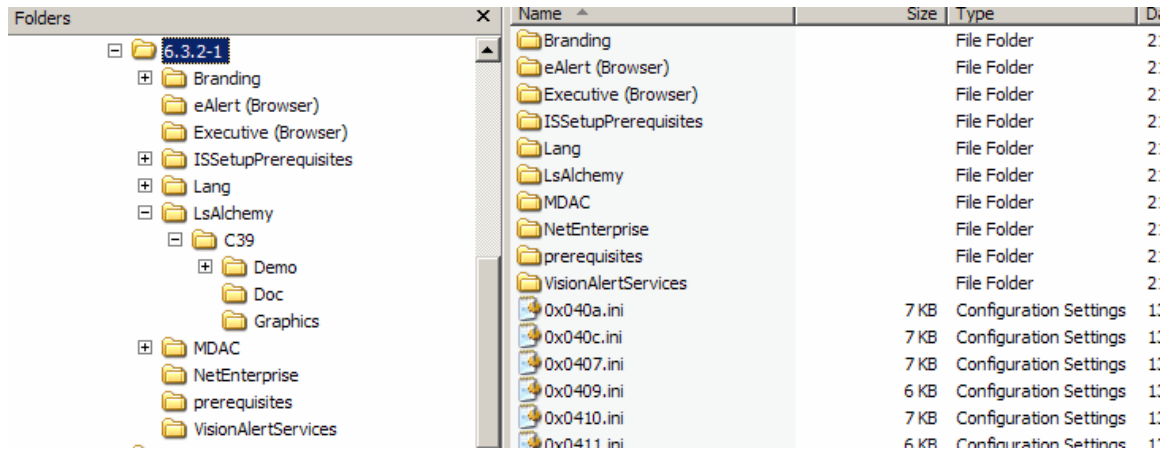
- Next you will be asked to enter the Opera Schema that the synonyms are to be created against. This is OPERA in all live production environments.



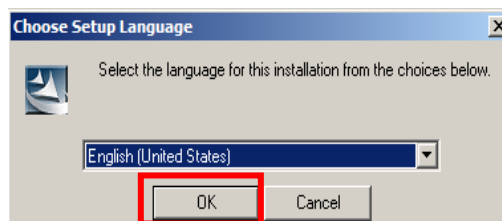
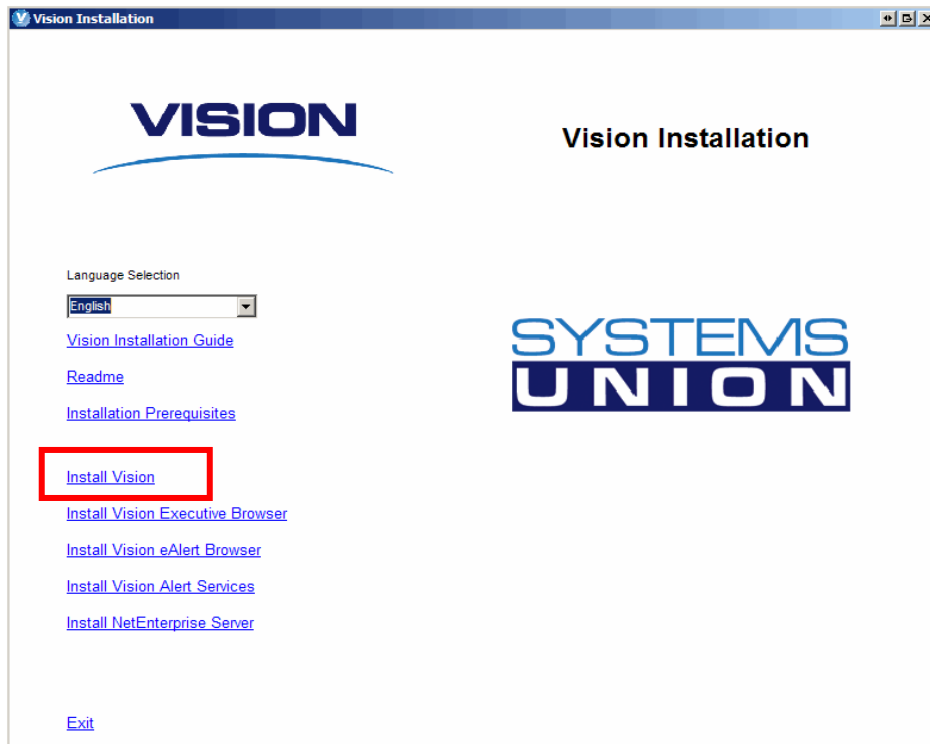
- Next you are able to click on Exit as the Schema/User has been created. However at this point you should note the option to Refresh Synonyms which is used at any time changes due to upgrades might be made to the Opera schema.

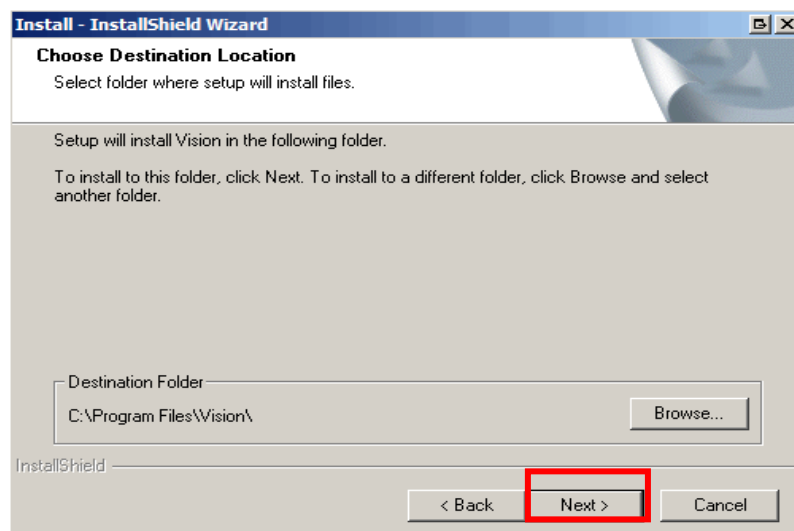
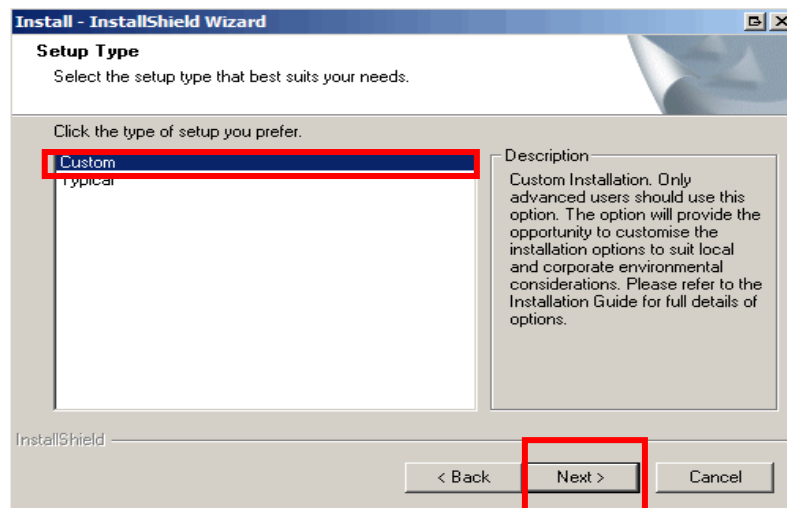
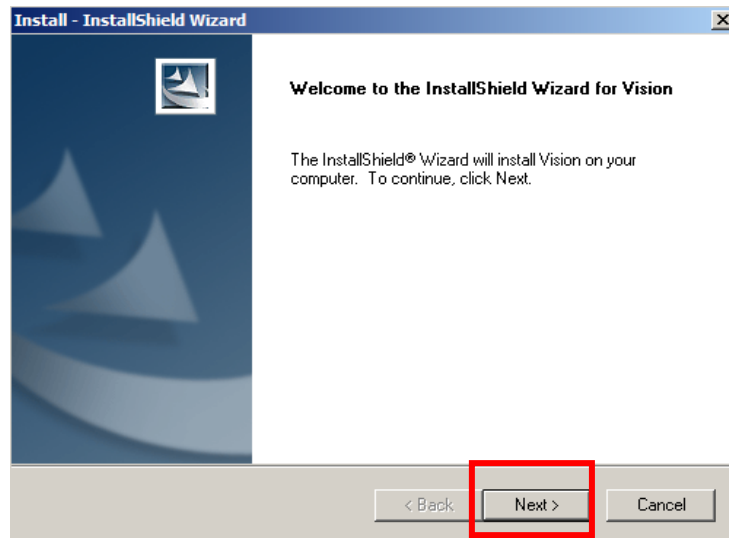


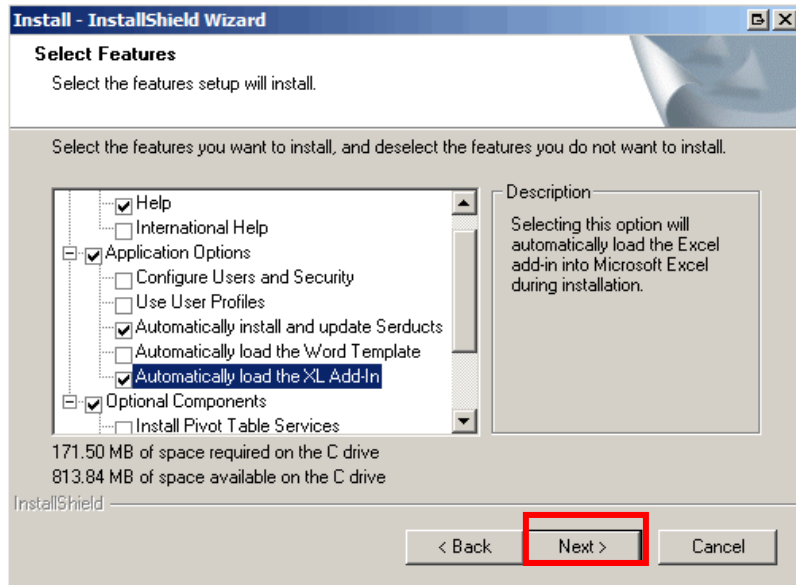
6. The following screen is a log file for the process created. Click Exit again to complete the Vision Schema/User creation.
7. In order for the Q&A for Opera serduct to be installed with Q&A we need to copy the LsAlchemy\C39 folders and files into the Q&A Install Folder as per below.



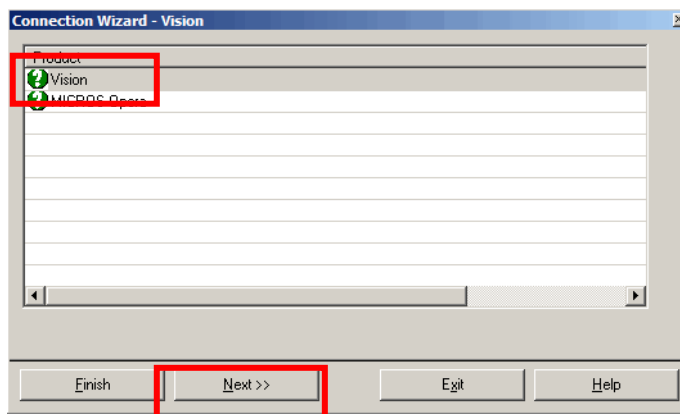
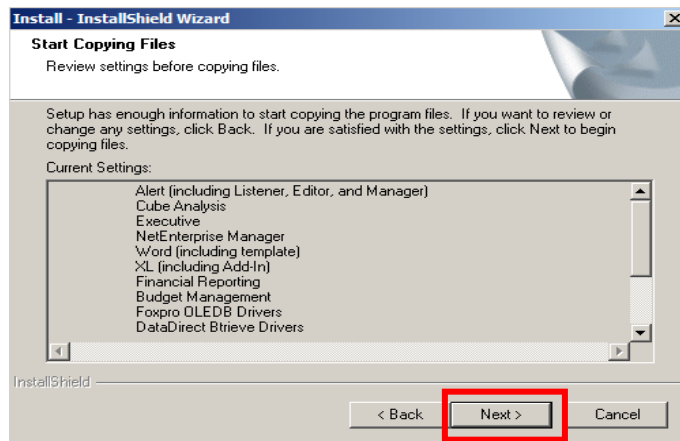
8. The next step is to install the Q&A application. The screen shots below show this process. Start with the Welcome exe on the Q&A install directory.

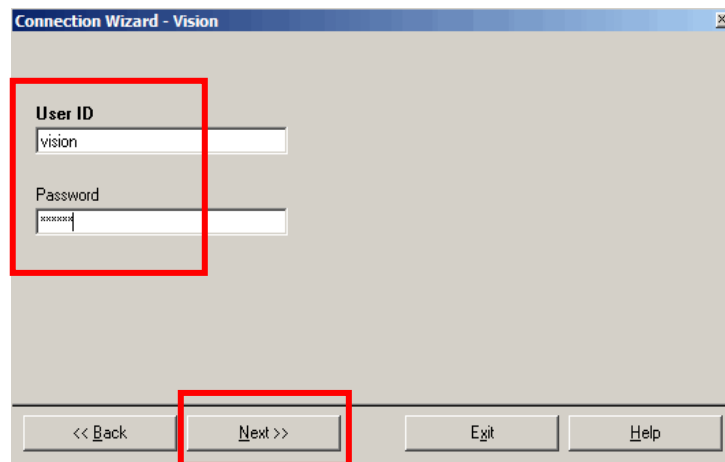
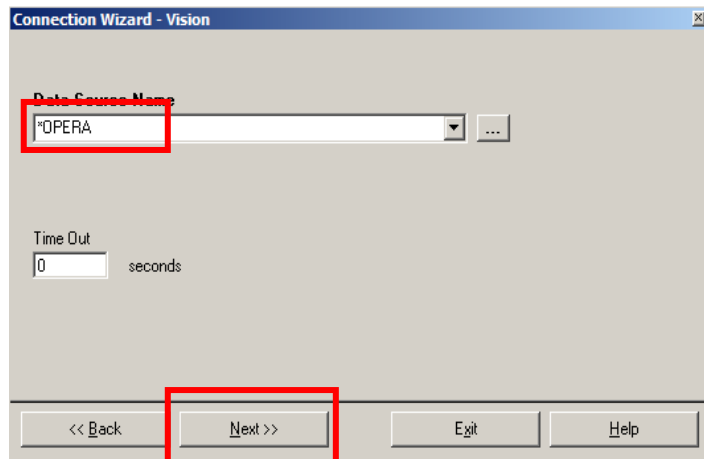
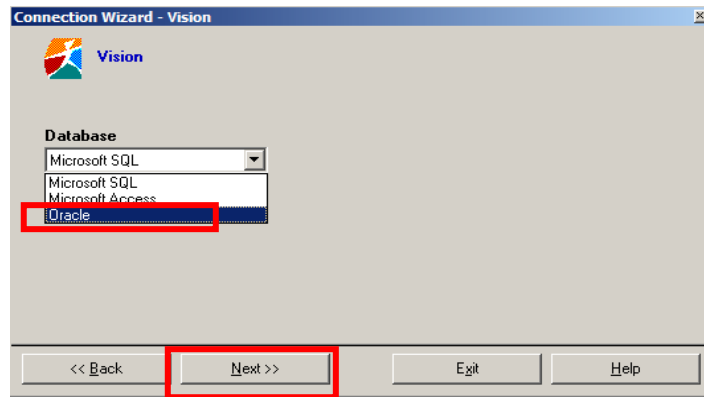


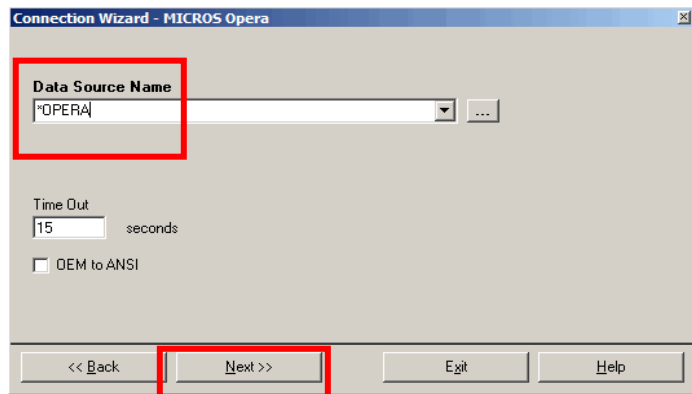
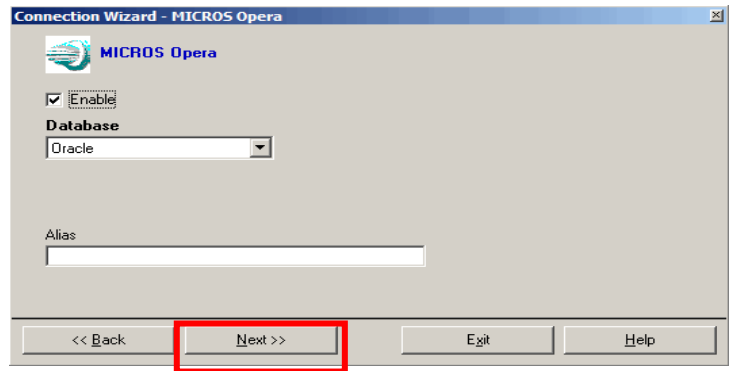
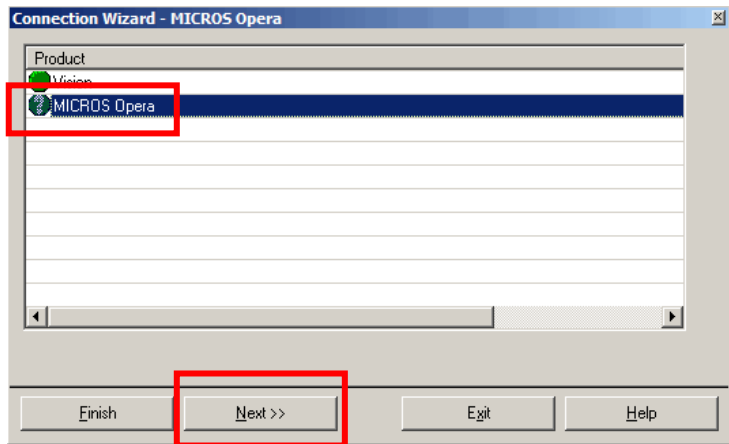
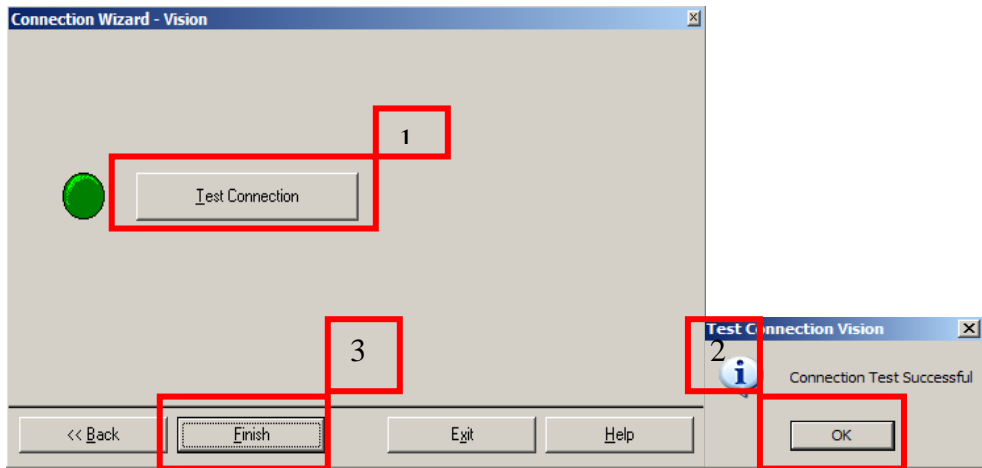




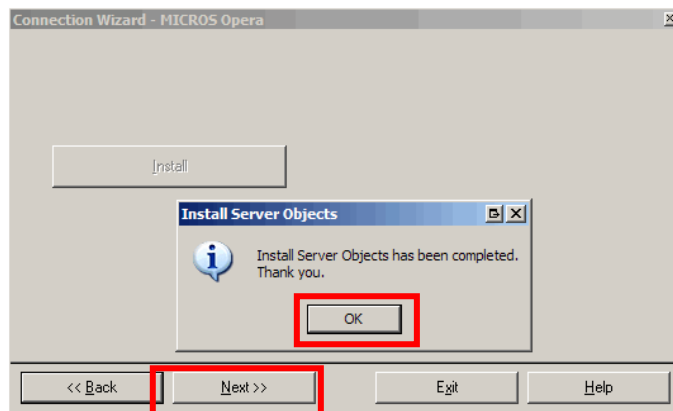
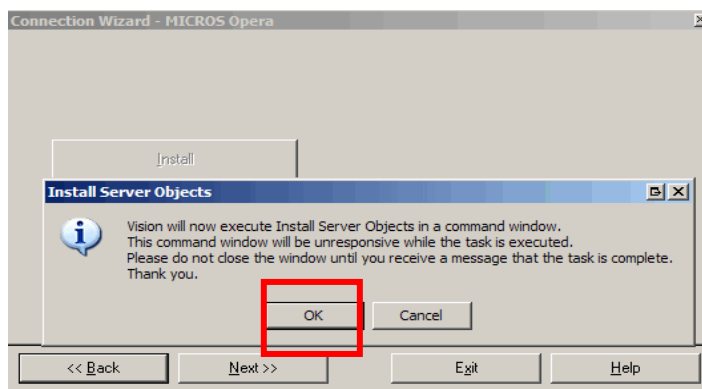
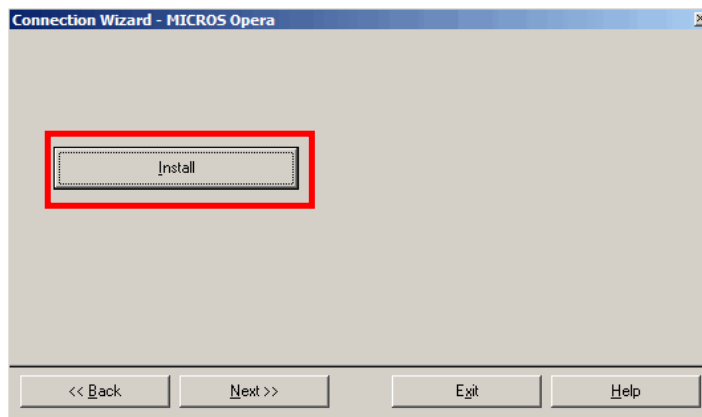
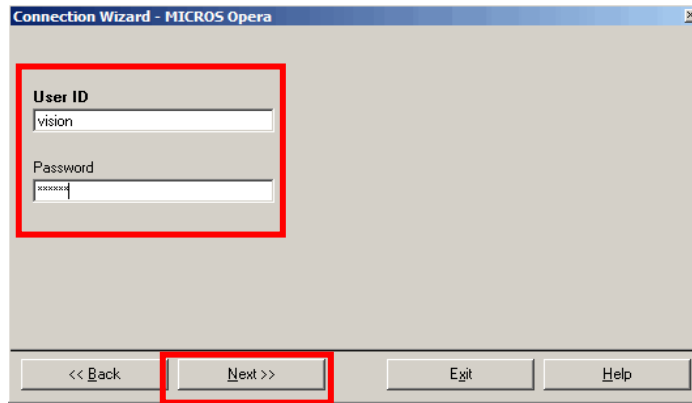
See Install Guide but ensure Automatically Load XL Add-in is checked & Use User Profiles is NOT checked.

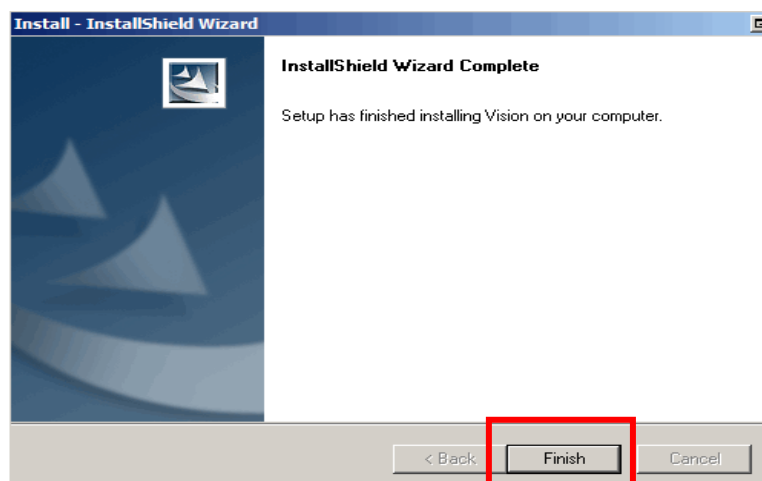
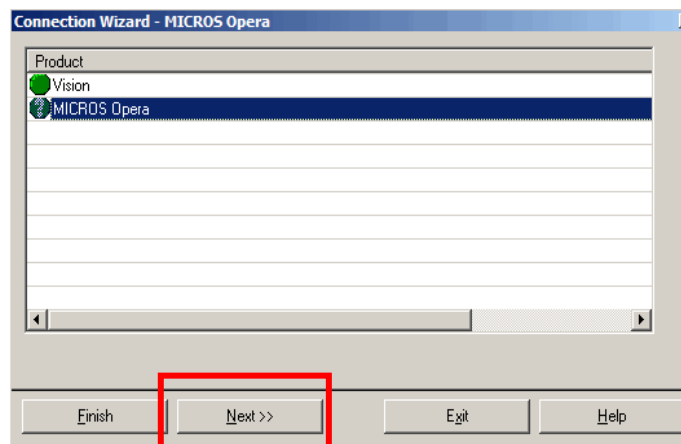
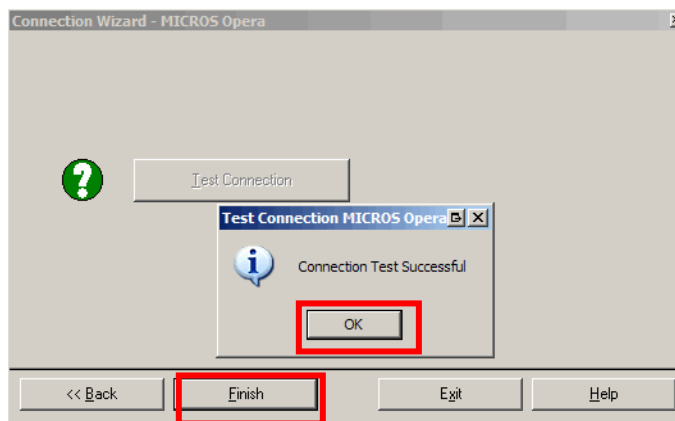
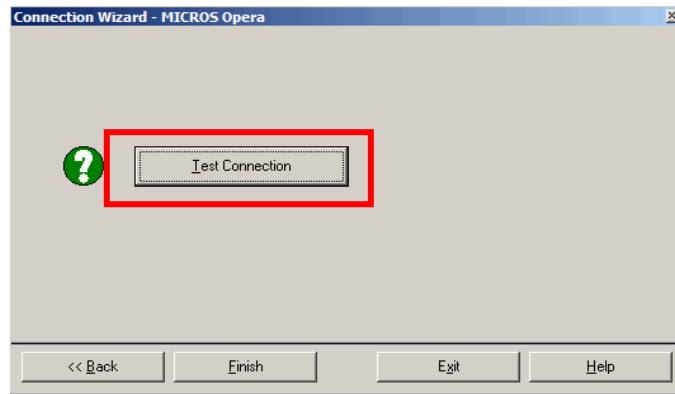






Must be preceded by an asterisk i.e. *Opera





Installation Process Outline – Adding Q&A for MICROS

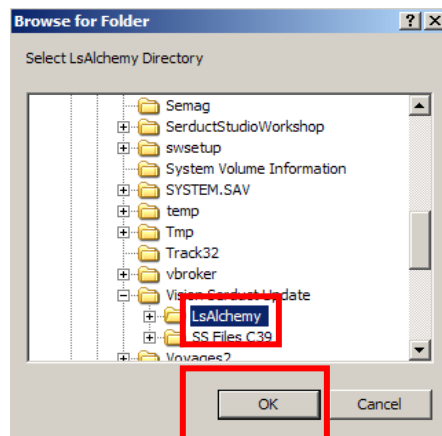
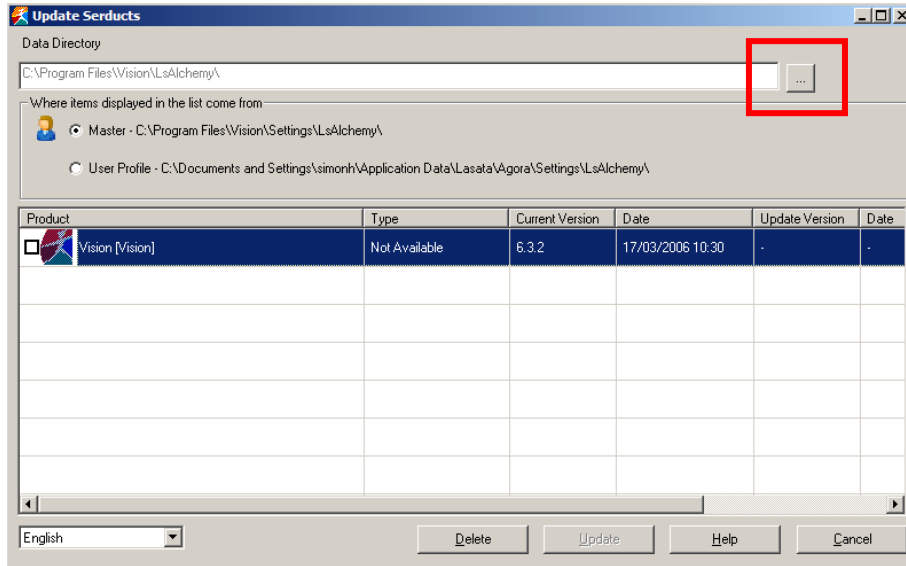
The process is similar to the above except you will consider the existing configuration. Where another Q&A 6 serduct / product is already installed and the existing serduct such as Sun Systems and Q&A for Opera are to be used by one or more of the same users, then you must use the existing Q&A Database. This means connecting the "Q&A" product to the same connection as the existing clients, put the Q&A for Opera serduct objects in the VISION synonym schema and connect the Q&A for Opera serduct to the synonym schema.

Should the existing product be Q&A 5, then it can be treated as a new install as Q&A 5 and Q&A 6 will both be installed on the client PCs.

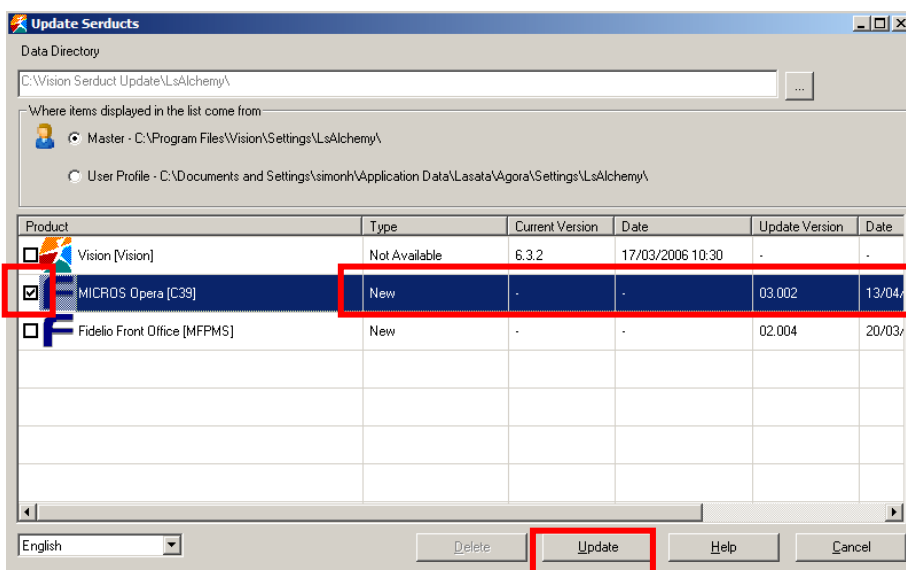
1. Check the minimum Q&A version required for Q&A for Opera. As at June 2006, it was Q&A version 6.1.2. Ensure that existing clients are on this version or better.
2. Ensure you have access to SQLPlus on the workstation/server and that the client TNSNAMES.ora file has the relevant entries for connection to MICROS Opera.
3. Ensure Q&A serialisation Author Product codes match Opera license details. Also, ensure that the Q&A Licence No. (Similar to a Customer No.) matches for the existing product and the new Q&A for Opera serialisation file.
4. Ensure access available to the OPERA_SMT.exe. This is typically found in the \micros\opera\Tools directory usually on the Opera database server.
5. Use OPERA_SMT.exe to create the Vision synonym schema.
6. If Q&A is not installed, run the Q&A Install Wizard on the client but note and use existing Q&A database connection.
7. Run Update Serducts on the clients to load the Q&A for Opera serduct.
8. If Q&A previously installed with another serduct, configure the newly loaded Q&A for Opera serduct only. DO NOT CHANGE the Q&A product configuration or the existing serduct configuration.
9. Test install via Q&A XL, logon name DEMO. Using a Detailed Report, output the Resorts from the Table Resorts. In MICROS Opera configure a generic Q&A user (i.e. Q&A), several role/department based users (i.e. Q&A Admin, Q&A Reservations, Q&A Finance, Q&A HK etc) or amend existing Opera users to include Reporting {Q&A} (i.e. Peter Smith, Alan Jones).
10. In Q&A Setup, configure a Q&A Profile or Profiles to match those in Opera. Lastly create Q&A Users linked to the relevant Q&A Profile.

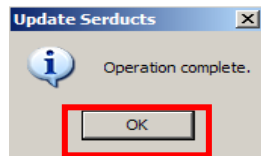
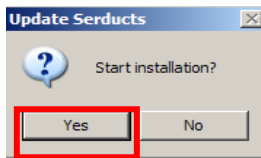
Carry out Steps 1 through 5 using OPERA_SMT.exe as per the screenshots above.

Now open the Update Serducts option from your Q&A menu in Start/All Programs/Q&A

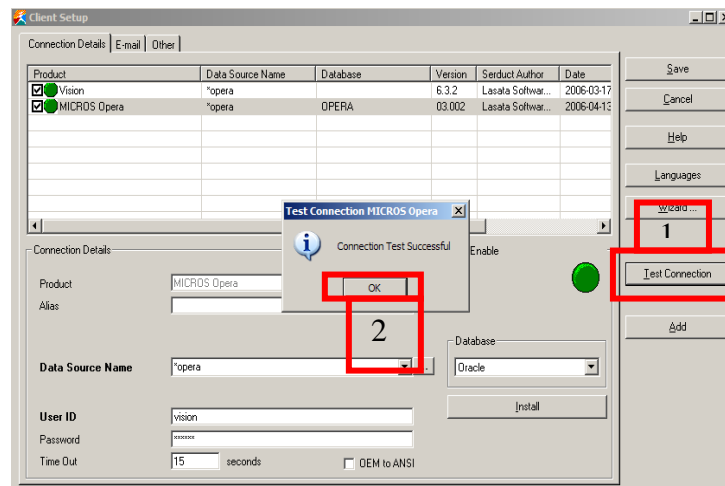
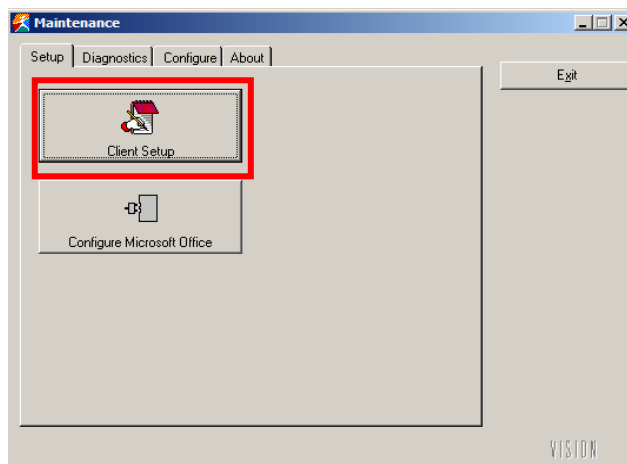


Serduct Update MUST be pointed at a folder called LsAlchemy containing the C39 serduct

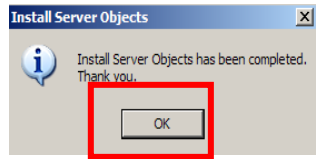
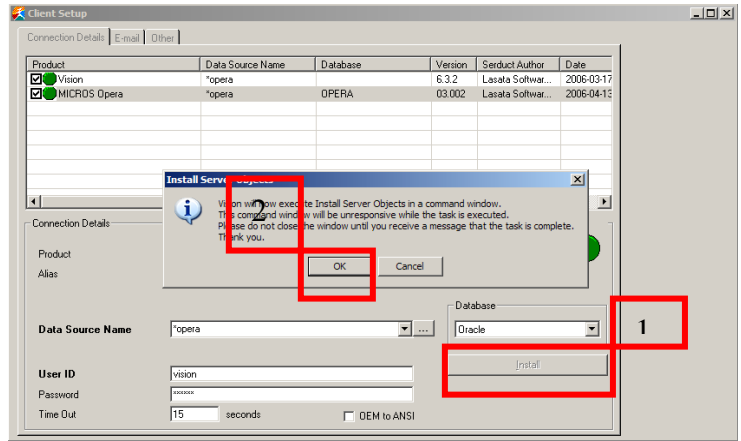




The next step is to go into Q&A Maintenance found in Start/All Programs/Q&A



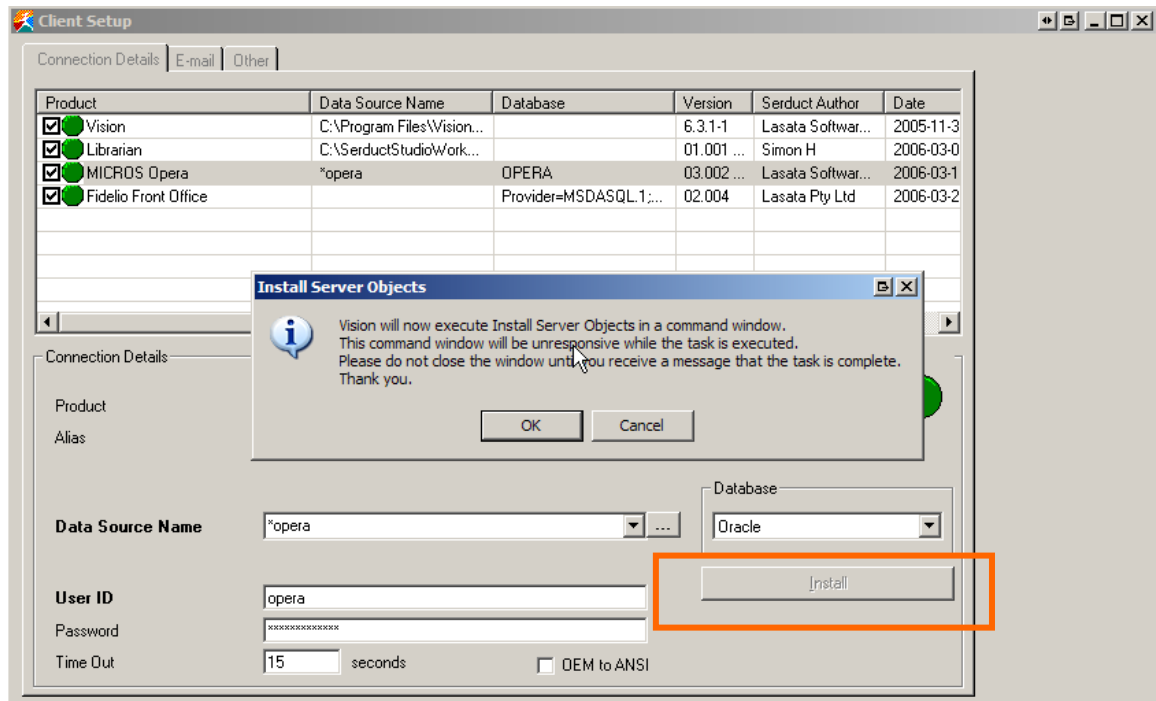
The Q&A product or line in the above screen shot will show different details but must NOT be changed.



To complete the server side installation, click on the Install button and "OK" to continue.

Invasive Installation (for Demo/MICROS User purposes ONLY)

To perform an invasive installation, you must have a connection to the database which uses the username and password of the owner of the schema where Opera itself is installed. For example, if Opera's own tables are in a schema called OPERA, then you must use the User ID OPERA in the Connection Details in the Client Setup dialog in Q&A Maintenance, as shown here:



With this connection selected, click on the Install button, and "OK" to continue.



Q&A Objects Created

The follow table outlines objects created in the Opera database:

Object	Description
Table LasAg_C39_Version_Control	Records the serduct version
Table Lasag_C39_Stat_Tab	Used to store the statistics while they're not in the SYS tables (such as sys.hist_head\$)
View LasAg_C39_horizon	View used in certain cases when a report is to combine actual and projected data.
Package LasAg_C39_changeover_dates	Package used to support reporting across date ranges for pricing and rates.
Package LasAg_C39_collapsor_functions	Functions in this package are used to output multiple rows of data from certain tables as single-row comma-separated lists in reports.
Package LasAg_C39_cross_resort_logic	Package facilitates reporting across multiple resorts.
Package LasAg_C39_mem_pts	Package used to simplify the reporting interface for membership transactions
Package LasAg_C39_SC	Package prevents double counting in certain types of report.
Package LasAg_C39_statuses	This handles statuses and status changes for reservations, allotments and bookings.
Package LasAg_C39_tag_pack	Package gathers information required by 'control tags' in Q&A
Function LasAg_C39_daylist	Function interfaces between Opera's textual 'day of the week' codes ('Su', 'Mo', etc.) and the numeric representation of days of the week used internally by Oracle.
Function LasAg_C39_incl_stay_rec_rm_nts	Eliminates the room nights of share reservations from room night calculations based on STAY_RECORDS
Function LasAg_C39_name_primary_rate	This returns a rate code for a particular profile as at the beginning of the current report window.
Function LasAg_C39_name_updates	This ensures that, when any part of a profile is updated (e.g., an associated address), the date and user for that update are reported as the latest update for that profile, even if they did not change the main 'NAME' table record for that profile.

Object	Description
Function LasAg_C39_resort_rooms	Function returns the number of actual lodging rooms in a resort.
Function LasAg_C39_resv_matches_rate_st	Function used when joining from Reservation table to Rate Header to Rate Set.
Function LasAg_C39_room_match	Function used in ORS and OCIS systems to help reconcile STAY_RECORDS data with centrally held reservation data
Function LasAg_C39_status_change	Function returns the date of a particular status change for a particular S&C event.
Function LasAg_C39_stay_rec_pro_rata	This distributes the occupancy and revenue figures for a STAY_RECORDS row evenly among the nights of the stay.
Function LasAg_C39_wrap_init	<p>This function provides a wrapper around the procedure pms_p.initialize, so that it can be called from within a plain SQL statement (rather than a PL/SQL block). This serves two purposes;</p> <ol style="list-style-type: none"> 1. It gets around the occasional compatibility problems of PL/SQL blocks over ADO 2. It ensures that, if something goes wrong, more and better error information gets back to the user interface than otherwise would.
LasAg_C39_wrap_stats	This extends the various profile-related functions (such as 'Last Stay Date') so that they are available both in PMS and in ORS/OCIS environments, and are responsive to Resort filters.
LasAg_C39_profile_is_in_OVOS	This returns non-zero if a profile is listed in the OVOS_owners_users table.



General Requirements

Before you begin the Q&A installation, check you have the following information:

- User Name and Password for Opera User Configuration.
- List of all Q&A Users names and passwords.

Creating Opera Permissions

To enable Opera application level security the following process needs to be done in SQL. Should you wish to only use Q&A level security, this is not required. From a command line, logged in as the owner of the Opera schema (e.g., OPERA), execute the script LsAlchemy-C39 Opera Permission Scripts.sql. This script -

- Adds some rows to APP_PERMISSIONS to enable integration between Q&A's security and Opera's security and
- Adds one row to APP_GRANTED_PERMISSIONS to enable Q&A to recognise the special status of the Opera application login 'SUPERVISOR' (which is hard-coded in the Opera application).

```
Oracle SQL*Plus
File Edit Search Options Help
(c) Copyright 2001 Oracle Corporation. All rights reserved.

Connected to:
Oracle9i Enterprise Edition Release 9.2.0.4.0 - Production
With the Partitioning, OLAP and Oracle Data Mining options
JServer Release 9.2.0.4.0 - Production

SQL> @'c:\LsAlchemy-C39 Opera Permission Scripts.sql'
DOC>* Release: 01.001
DOC>*
DOC>* This script handles the set-up of some static data necessary for the integration of
DOC>* Vision security with Opera security.
DOC>*
DOC>*****/

Package created.

Package body created.

PL/SQL procedure successfully completed.

Package dropped.

SQL>
```

Note: quotes around the path to the script.

User security

You must have a valid Q&A login mapped, by way of a Q&A profile, to a valid Opera user (otherwise, for technical reasons internal to the Opera database, certain fields in the serduct will provide no data).

We recommend that you activate 'User Security' for this Q&A profile, using Q&A Setup.

Note: Unless user security is activated, a Q&A user will have complete read-access even if the mapped Opera user has only limited rights within the Opera application.

Opera passwords

There are two ways of handling Opera passwords in Q&A, depending on whether you are willing to let the Q&A database store Opera passwords.

If so, then you must enter the Opera password when you map a Q&A profile to an Opera user. It will be stored by Q&A in an encrypted form, and the serduct will not then prompt you for an Opera login in addition to your Q&A login.

Otherwise, you will have to provide an Opera login in addition to a Q&A login each time you use the Opera serduct (but your database administrator may prefer this rather than allow the storage of Opera passwords outside the Opera database).

A possible compromise on this point is to set up within Opera a user dedicated to Q&A reporting (with no permissions to do anything else), and map all Q&A profiles to this one Opera user; then, the Opera database is less exposed in the very unlikely event that this Opera user's password is compromised.

Note: When you edit a user or profile in Q&A Setup, you will be logged into Q&A as the 'System' user. You may then be prompted for an Opera password, even if the profile you're editing already has an Opera password stored in Q&A. If the 'System' user in Q&A does not have a profile with any mapping to an Opera user, then this prompt can safely be dismissed by selecting 'Cancel', and your use of Q&A Setup will not be impaired.



Q&A Permissions in Opera

Within the Opera application, you must allocate Q&A permissions to the Opera user(s) to which you have mapped the Q&A profile(s).

The following table outlines the current permissions found in Opera for Q&A Reporting:

Permission Level	Access
All	Access all areas through Q&A Reporting
Application Administration	Access application users and permissions through Q&A reporting. Also Profile Match Merge tables
Finance and Profiles	Access finance and profiles through Q&A reporting.
Finance ex AR	Access finance excluding Accounts Receivable through Q&A reporting.
Reservations and Finance	Access reservations and finance through Q&A reporting.
Reservations and Profiles	Access reservations and profiles through Q&A reporting.
Reservations and Rooms	Access reservations, rooms and housekeeping through Q&A reporting.
Reservations, Profiles and Finance	Access reservations, profiles and finance through Q&A reporting.
Reservations, Profiles and Statistics	Access reservations, profiles and statistics through Q&A reporting.
Sales and Catering	Access sales, catering and reservations through Q&A reporting.

You may assign any combination of the permissions listed above.

Note: the Permission Levels ALL and any including Accounts Receivable (ALL, Finance & Profiles, Reservations and Finance, Reservations, Profiles and Finance) will allow access to Credit Card numbers and Expiry dates. If these are output without the necessary permissions, the Credit number will read "Access Denied".

to the Release Notes for current Q&A for MICROS Opera configuration.

MICROS Opera Configuration

Note: The first step is conducted within MICROS Opera. Also, the Opera Supervisor Group and Login does **NOT** include the Q&A permissions.

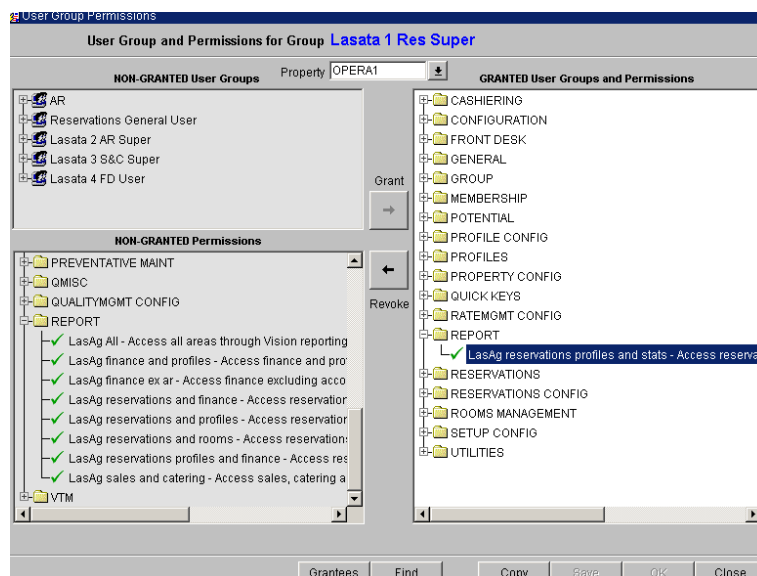
Before configuring Q&A Security in Q&A Setup the following steps should be completed. This applies to either the User or User Group model:

1. Log on to Opera with User Configuration rights.
2. In Opera User Configuration, go to User/User Group.
3. Click the Permissions button.
4. Select the User/User Group you wish to grant rights to.



5. When the User/User Group is highlighted, click the Permission button.

The Permissions that are required can be found in the Report Folder in the NON-GRANTED Permissions section.



6. Expand the Report folder, highlight the permission.

7. Click the Grant button.
8. Repeat this for each Property that each User/User Group has permission for.
9. When one User/User Group has been completed, click Save and Close and begin the next User/User Group.
10. Following this step it is necessary to link these Opera users to Q&A Profiles, then Q&A Users to Q&A Profiles. For details on this, please see the Q&A Installation Guide.

Permissions can be revoked by highlighting the permission and clicking the Revoke button.



In normal use (as opposed to installation), the Q&A product requires SELECT and EXECUTE access to the Opera database schema.

The Q&A user requires extensive permissions only when a new serduct version is being installed; for maximum security all but SELECT and EXECUTE permissions can be revoked at other times.

See the section 'Initialising the Database' for more details of the permissions required during installation.

Some products allow Q&A users to write data to the database, in which case the Q&A user must have INSERT and UPDATE permission to the relevant tables. However, this is not presently used in any way by Q&A for MICROS Opera.



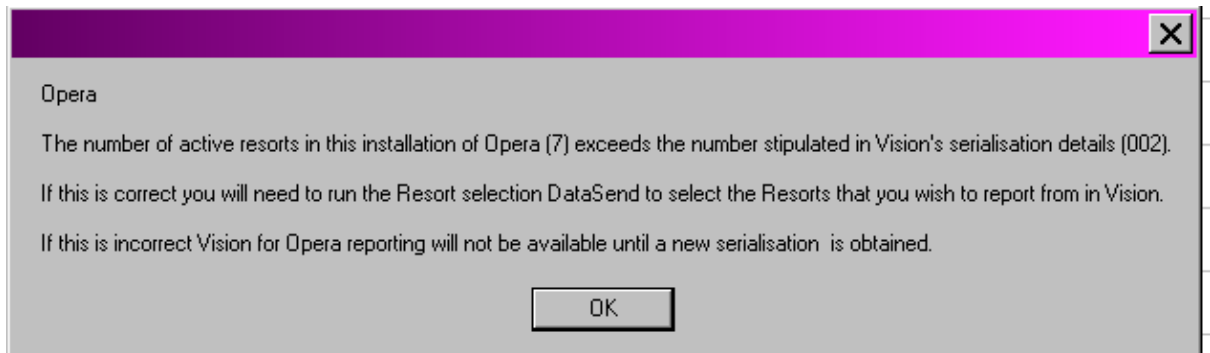
From version 05.006 of the Opera DataLink it will be possible to serialize to allow Q&A reporting from a restricted list of resorts. This enables users with multiple resorts in Opera to select a subset of these resorts to be available for reporting in Q&A/Q&A.

This is only a requirement if the number of active resorts in the Opera database is greater than the number of resorts in the Q&A/Q&A serialization file.

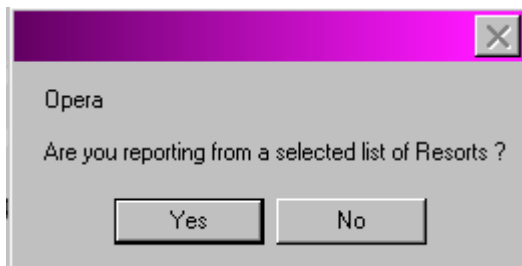
The procedure for enabling the above is as follows :

1. Run Q&A Setup and serialize

If the number of resorts on the serialization is less that the number of resorts in Opera the following information is displayed



The user is then asked to confirm if they will be reporting from a restricted list of resorts.



If the user selects NO at this prompt, this indicates that the serialization is incorrect, a correct serialization must be applied before reporting from Q&A will be enabled. If the user selects YES at this prompt, the serialization will complete successfully BUT the user must then run the resort selection datasend before any reports can be run.

2. The user can now either manually run the resort selection datasend as detailed in point 3 below OR use the Resort DataSend .xls distributed with the Q&A for Opera Datalink 05.006.
3. Run resort selection datasend.

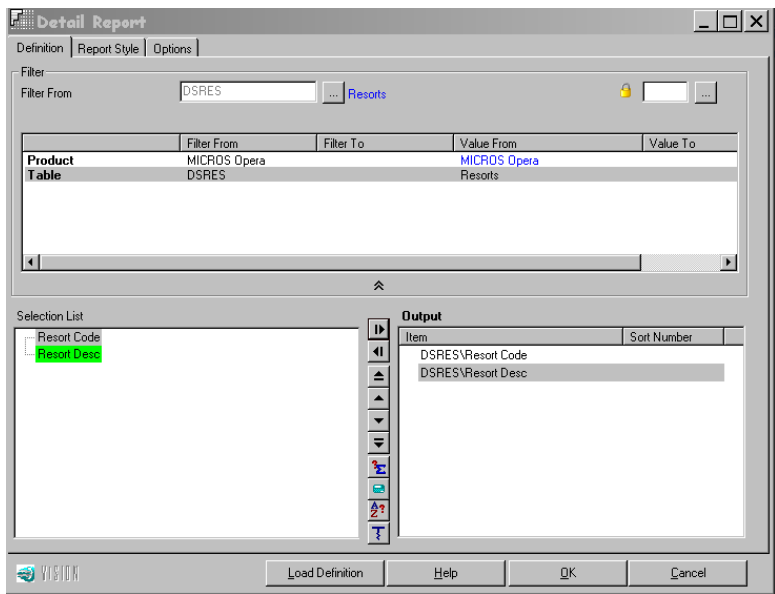
Logon to Q&A/Q&A in Excel, select Detail Report, then select table DSRES/Resorts

Table

DSRES

- [-] Resorts
- [-] Dates and Times
- [-] Reservations
- [-] Profiles
- [-] Memberships
- [-] Marketing
- [-] Revenues & Rates
- [-] Payments & Accounts
- [-] Rooms & Housekeeping
- [-] Sales & Catering
- [-] Vacation Ownership System
- [-] Administration
- [-] Statistics
- [-] Data Send
 - [-] DSRES / Resorts

Select both fields to be included in the output

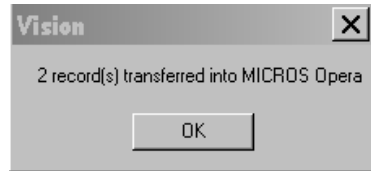


On the resulting report put a 'Y' (capital Y) in the column next to the Resorts to be available for reporting

Resort Code	Resort Desc	
CRO	CRO	
FSDH	Property 1 Opera Demo Multi Hotel	Y
FSDH2	Property 2 Opera Demo Multi Hotel	
FSDH3	Property 3 Opera Demo Multi Hotel	Y
HOTELB	Opera Demo Hotel, Tiny - NOT IN USE	
LSDH	Opera Demo Hotel, Small	
MFCRO	Central Reservations Office	
ORS	Opera Demo ORS/OIS	
REMOTE	Opera Demo Hotel, Tiny	
SFA	Opera Demo Hotel, Tiny	

Then select DataSend from the Q&A menu

Double click on Definition



If it is not successful it will display messages accordingly and allow corrections to be made.

Once the datasend has been run successfully the list of available resorts cannot be changed until a new serialization is applied.



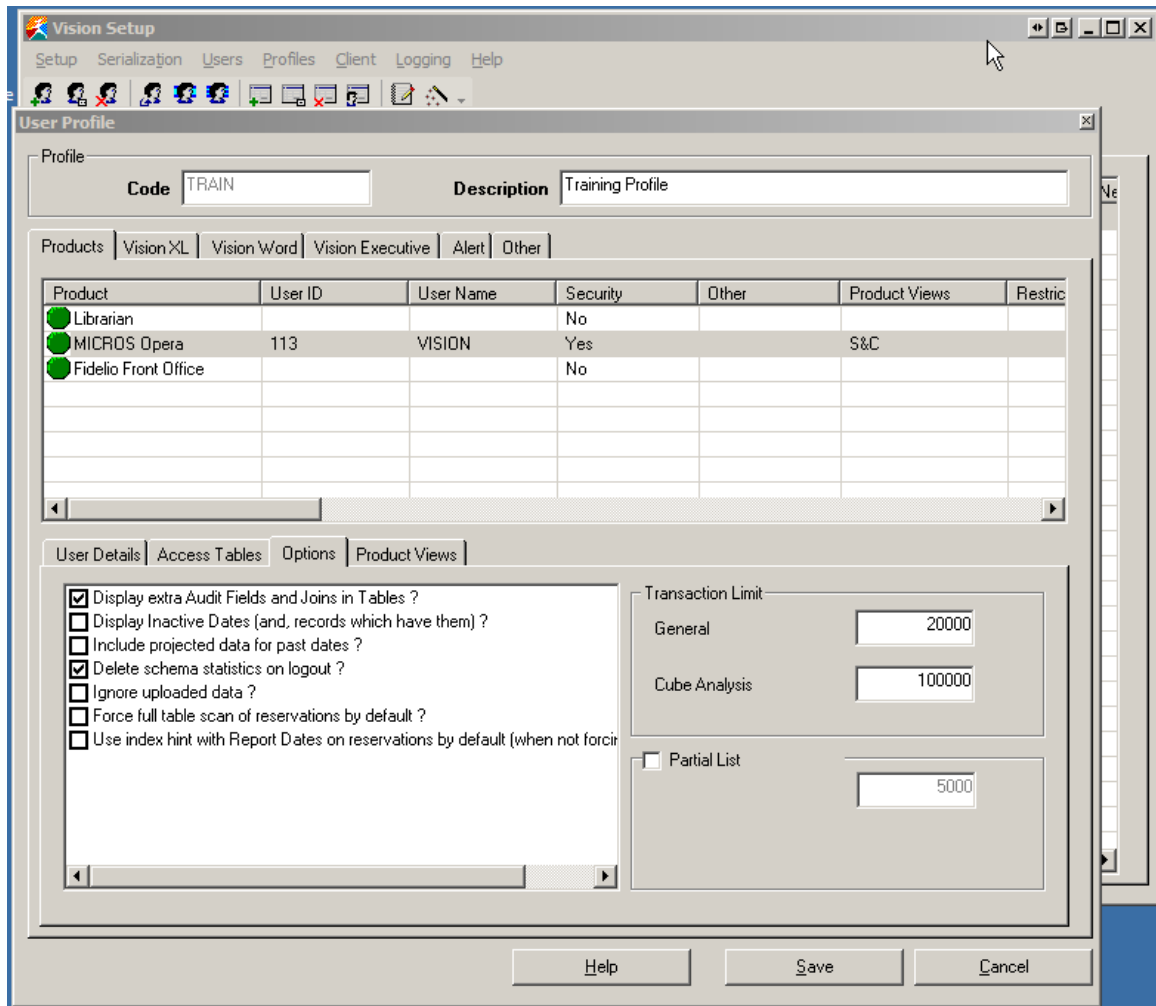
In Oracle, statistics about the database are gathered periodically. These statistics are used in Cost Based Optimisation (CBO) of queries run by Q&A. In Oracle there are 2 ways of optimising queries with the first being Rules Based Optimisation (RBO) and the second CBO.

Opera Version 3.7 and greater uses Cost Based Optimisation and therefore, Q&A takes advantage of the CBO where appropriate. For older versions when necessary it is possible for Q&A to use CBO in certain situations. Q&A now also allows for the Cost Based Optimisation to be used at a session level or only during certain time periods such as overnight via Q&A Alert tasks.

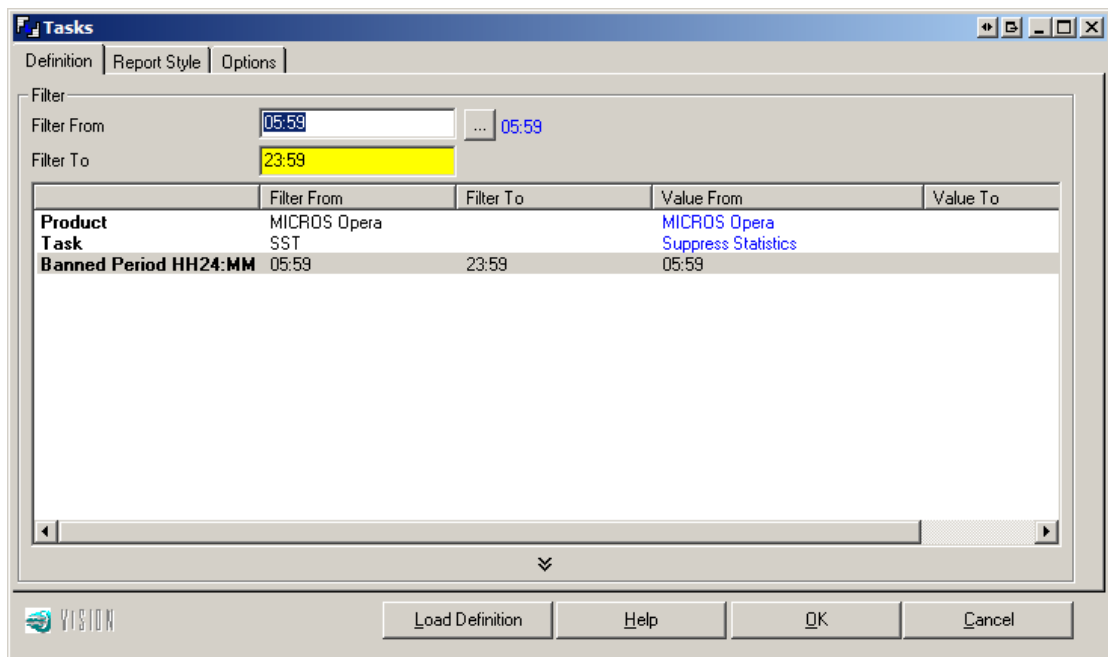
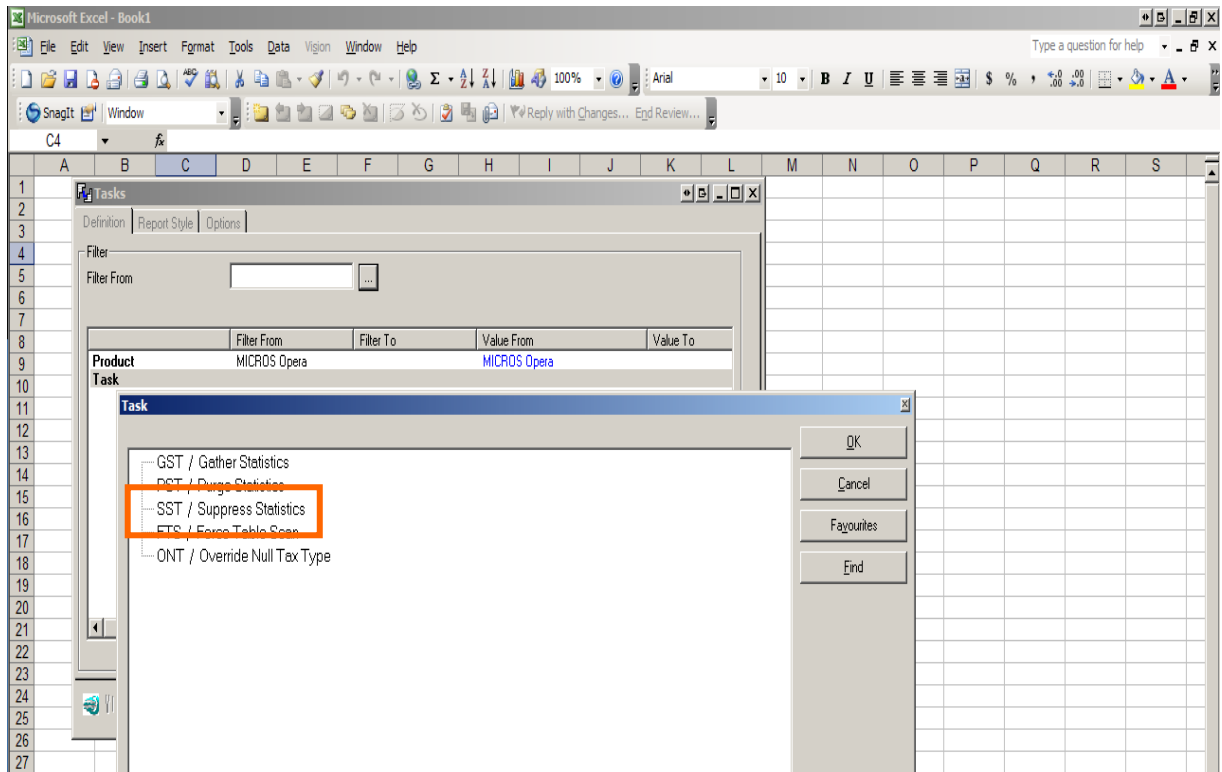
There is an extra table, LASAG_C39_STAT_TAB, which is used to store the statistics while they are not in the SYS tables (such as sys.hist_head\$). This extra table is created in LsAlchemy-C39 Stat Table.sql which is called as part of the server install.

LsAlchemy-C39 Opera Gather Stats Server.sql populates it in a two-stage process; first, it does a normal dbms_stats.gather_schema_stats putting data straight into the SYS tables, then it exports the data into LASAG_C39_STAT_TAB.

UserOption04, defined in LsAlchemy-C39 Opera ClientSide Scripts.sql and called 'Delete schema statistics on logout ?' triggers the deletion the stats from the SYS tables (but not from LASAG_C39_STAT_TAB) at the end of a Q&A session. The actual job of deletion at the end of the session is done in LsAlchemy-C39 Opera Termination Server.sql. If, for any reason, the Q&A session does not end cleanly (e.g., someone terminates Excel through Task Manager), then LsAlchemy-C39 Opera Termination Server.sql will not be run. In this case, the deletion of these stats can be done manually, through the product task Purge Statistics, which is implemented in the script LsAlchemy-C39 Opera Purge Stats Server.sql. If 'Delete schema statistics on logout ?' is enabled, then, when LasAg_tag_pack.Populate_LasAg_Tag_Table is called at login, the last thing it does is call dbms_stats.import_schema_stats. This call is implemented in LsAlchemy-C39 Opera TagPack Script.sql. All the SQL script files with 'Server' in their name, including, but not limited to the ones mentioned above, are called by way of a SQL*Plus session invoked from a DOS prompt, created by VbScript. The VbScript to do this has now been centralised in one new file, LsAlchemy-C39 Opera Common SqlPlus Wrapper.sql, whose routines are called from all the .VBS script files in the serduct.



In addition, we've got the requirement for defining time windows when stats can't be used. To support this, there's a new product task, 'Suppress Stats'. This requires 'Admin' rights at the serduct level (though not at the Oracle level or the Opera level). The work of this task is done in a new script file, LsAlchemy-C39 Opera Suppress Stats.sql. This task takes as inputs two a 'from' time and a 'to' time in the format HH24:MM. If either one of these times is blank that time is read as midnight (i.e., '00:00'). If both these times are blank, then the product task will delete all the existing time restrictions on stats. To get Q&A to accept a blank, you have to enter one or more space characters, rather than nothing at all. You are allowed to have a start time later in the day than the end time (e.g., from 08:00 to 01:00). The restrictions are stored in the Lasag_c39_tag_table, with a session_no of NULL. During login, when the serduct is deciding whether to import statistics, it will first check whether the current system time falls within any of the 'banned' periods stored in Lasag_c39_tag_table. You can store as many such restrictions as you like, and they are allowed to overlap.



You can view the stored restrictions in a new table at the bottom of the 'Administration' table group, which is only visible when UserOption04 is set. Note that these restrictions are only checked at the point when a user logs in; if a user is already logged in (and has already imported statistics) at the point when a restricted period begins, then those statistics will remain in place until that user logs out, or until someone runs the Purge Statistics task.

