

## Indigo DQM Data Management System

Indigo DQM is a professional data management system that features advanced query, processing and reporting capabilities. Our software is designed to maximise data assets, increase business value and intelligence.

This powerful application can be used for all aspects of data management and reporting and includes data querying, data analyses, data extraction, data migration and transformation, web scraping, data security, data backup, report generation plus much more...

Working with Data, on or off the cloud, Indigo DQM's software platform is optimised for sensitive and secure handling of Data on both private and public networks offering far superior security and functionality to any cloud based solutions.

With an impressive array of features, flexible and advanced functionality Indigo DQM is an information and data reporting powerhouse.

### Ultimate Data Management

Representing the ultimate in professional and secure data management, Indigo DQM comprehensively covers all aspects of managing and processing demanding business data. This includes data queries, data analyses, data extraction, data mining, data migration and transformation, data security, data backup, report generation plus much more...

Indigo DQM provides the ultimate software tools for Data Management, Processing and Reporting increasing business intelligence, opportunities and value.

### Software Compatibility

Indigo DQM is a Windows based software system that requires any Win32 or Win64 operating system (server or workstation): Windows Vista, Windows 7, Windows 8, Windows 10 or Windows Server 2003, 2008, 2012 etc.

The software application is installed on private computers for optimal security with the system being highly configurable and adaptable making it compatible with most data and reporting requirements regardless of infrastructure or schema.

Indigo DQM can read, write, convert and translate Data into many different formats and types allowing Data to be intelligible and interchangeable between different applications and databases including Data on other operating systems such as Linux, Unix, Mac OS etc.

### HR Requirements

Internal resources will require experienced DBA and/or SQL programmers for generating the necessary Data Command Queries to be programmed into the DQM Data Engine.

For reporting the Indigo DRS Report Designer will require someone with XQuery / XPath and /or Python knowledge.

Custom scripts will require somebody with VBA and Python scripting experience.

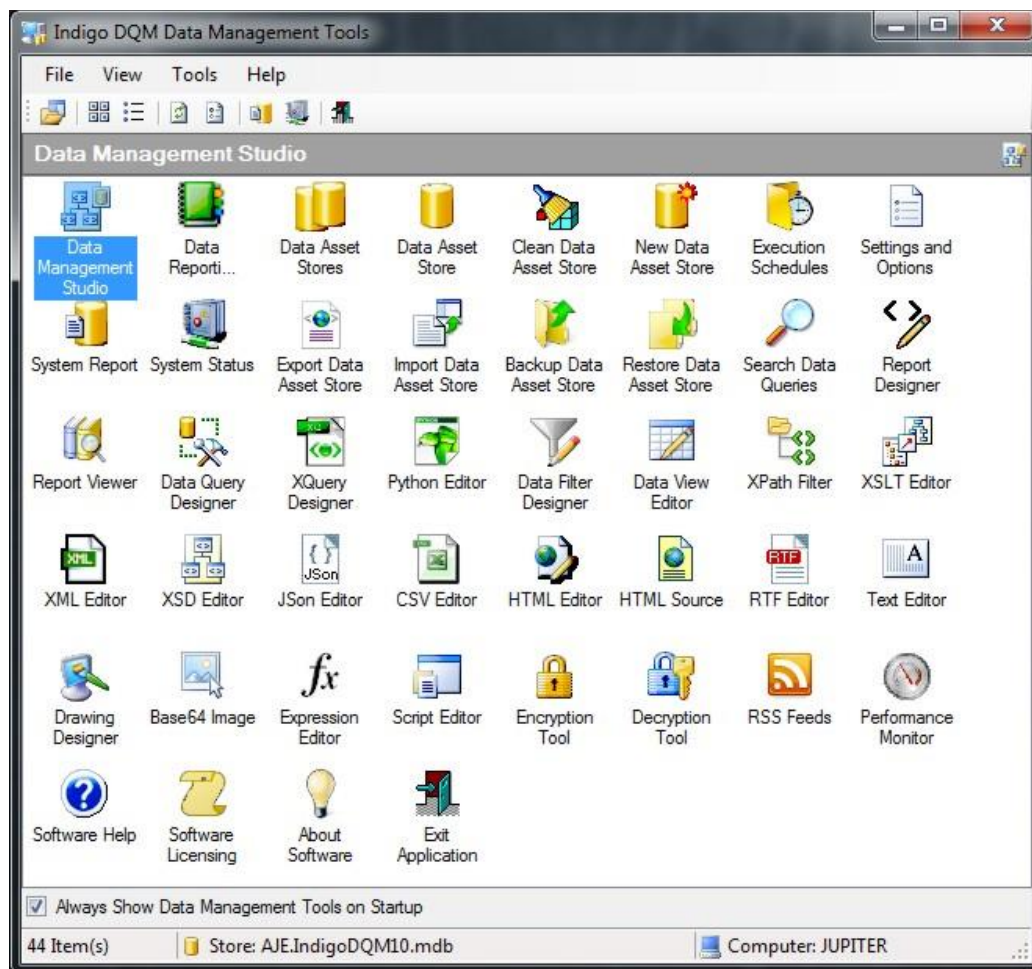
Overall a competent IT department should have the necessary skills to use Indigo DQM. Training can be provided at an additional cost if required.

### System Walkthrough

The following gives a very brief overview of the Indigo DQM Data Management System by creating a Data Source and a Data Query and showing the Result Outputs and various options for saving the results, reporting and migration.

## Indigo DQM Data Management Tools

Indigo DQM features the Data Management Console and Data Management Studio for managing Data Assets.



The Data Management Console contains shortcuts to the most commonly used Tools of the system for user convenience. Available shortcuts shown are determined by the installed modules of the system.

### Data Queries, Transforms and Scripting

The Data Management Studio can run queries and process data against any type of Data Source using standard relational SQL queries and / or XQuery / XPath and Python.

Indigo DQM supports multiple Data Sources and Types including Microsoft SQL Server, Microsoft Access, ODBC, OLEDB, MySQL, Oracle, Postgre, Firebird, XML, JSON and CSV.

XQuery can be used to query Data Sources and contains a superset of XPath expression syntax to address specific parts of an XML document. The language is based on the XQuery and XPath Data Model (XDM) which uses a tree-structured model of the information content of an XML document.

XSLT is designed for use as part of XSL, which is a stylesheet language for XML. In addition to XSLT, XSL includes an XML vocabulary for specifying formatting. XSL specifies the styling of an XML document by using XSLT to describe how the document is transformed into another XML document that uses the formatting vocabulary.

In addition to XQuery Indigo DQM can use IronPython an open-source implementation of the Python programming language which is tightly integrated with the .NET Framework.

IronPython can use the .NET Framework and Python libraries, and other .NET languages can use Python code just as easily. Python Scripting can be used to Query, Analyze and Transform Data Sources.

## Indigo DQM Data Management Studio

The Indigo DQM Data Management Studio allows multiple Data Queries, Data Sources, Data Reports and Execution Plans to be organised into Data Folders in one central location.

Featuring a powerful user interface rich in features and functionality all your data management and reporting requirements are handled by the Indigo DMS workplace.

The Data Management Studio is the central workplace for managing all Data, Queries, Data Sources, Reports and Execution Plans.

Data Assets are available on demand allowing all Data to viewed, editing, executed and reported on in one central location maximising access and availability.

Every conceivable view of Data is provided including Data Grid, XML, JSon, CSV, HTML and RDL Reports. Searching and filtering can also be performed on all Data Results. Indigo DQM includes all the functionality required for managing data as a valuable resource.

### Data Grid Outputs

Viewing the Data Command Query results in the Data Management Studio.

The screenshot displays the Indigo DQM Data Management Studio interface. The main window is titled 'Query Viewer - FEES on SATURN'. It shows a data grid with 12 rows and columns. The columns are: FeeID, GUID, AccountID, LoanID, PartyID, Name, Amount, Tax, Period, Spread, and PaidWhen. The data is sorted by FeeID in ascending order. The first row has FeeID 1, GUID C69372, AccountID 10, LoanID 0, PartyID 0, Name 'Comple...', Amount 15.0000, Tax 1, Period 1, Spread 2. The last row has FeeID 12, GUID 912681, AccountID 0, LoanID 90, PartyID 0, Name 'Arrang...', Amount 7575.0000, Tax 0.0000, Period 1, Spread 1. The interface also includes a 'Data Sources' panel on the right, a 'Data Grid' panel at the bottom, and a 'Properties' panel on the left. The status bar at the bottom indicates 'Data Command Query Executed Successfully' and '32 Row(s)'.

Indigo DQM Data Results can be output into various formats including XML, JSon, CSV, HTML, RSS and custom HTML and RDL reports.

## XML Data Outputs

The screenshot displays the Indigo DQM Data Management Studio interface. The central pane shows the XML output of a query named "FEES on SATURN". The XML structure is as follows:

```

<?xml version="1.0" encoding="UTF-8"?>
<Feeds>
  <Feed>
    <FeedID>0</FeedID>
    <GUID>C66972CB-90CE-4172-8898-0D46FC753E0</GUID>
    <LoanID>18</LoanID>
    <PartyID>0</PartyID>
    <Name>Completion Fee</Name>
    <Amount>15.0000</Amount>
    <Period>1</Period>
    <Spread>1</Spread>
    <PaidWhen>2</PaidWhen>
  </Feed>
  <Feed>
    <FeedID>4</FeedID>
    <GUID>F99D501A-EC1B-4EBF-9AC0-5BF0B489C185</GUID>
    <LoanID>1</LoanID>
    <PartyID>0</PartyID>
    <Name>Completion Fee</Name>
    <Amount>15.0000</Amount>
    <Period>1</Period>
    <Spread>1</Spread>
    <PaidWhen>2</PaidWhen>
  </Feed>
  <Feed>
    <FeedID>2</FeedID>
    <GUID>4588BFA3-636C-4C36-A141-1751D4860519</GUID>
    <LoanID>4</LoanID>
    <PartyID>0</PartyID>
    <Name>Arrangement Fee</Name>
    <Amount>7575.0000</Amount>
    <Period>1</Period>
    <Spread>1</Spread>
    <PaidWhen>2</PaidWhen>
  </Feed>

```

The right-hand pane shows the "Data Source" and "Data Table" properties. The "Data Source" is "FEES on SATURN" and the "Data Table" is "Feeds". The "Data Table" properties include: Columns (Collection), Constraints (Collection), DisplayExpression, MinimumCapacity (50), PrimaryKey (DataColumn), TableName (Feeds), and Namespace.

CSV

## CSV Data Outputs

The screenshot displays the Indigo DQM Data Management Studio interface. The central pane shows the CSV output of a query named "FEES on SATURN". The CSV data is as follows:

```

"FeedID","GUID","AccountID","LoanID","PartyID","Name","Amount","Tax","Period","Spread","P"
"0","C66972CB-90CE-4172-8898-0D46FC753E0","","10","0","Completion Fee","15.0000","","1"
"4","F99D501A-EC1B-4EBF-9AC0-5BF0B489C185","","1","0","Completion Fee","15.0000","","1"
"2","4588BFA3-636C-4C36-A141-1751D4860519","","4","0","Completion Fee","15.0000","","1"
"10","52C40D4D-90D0-4109-A109-65984C0C0968","","21","0","Completion Fee","15.0000","","1"
"9","70EA3BC0-33F5-46E3-BF02-2A518F1C4E2B","","21","0","Doc Fee","25.0000","","1","0"
"1","408BD6B2-7E14-44D3-6E1FC7A8A1EA","","4","0","Doc Fee","25.0000","","1","1"
"3","6D322E3E-DC58-489F-80B9-AD5173A232D9","","1","0","Doc Fee","25.0000","","1","1"
"5","4D28E018-70BF-4398-99F3-E990A8A9FE70","","10","0","Doc Fee","25.0000","","1","1"
"19","D190CDA-136C-4C3E-684A-E39530271FFF","","14","0","Doc Fee","50.0000","","0","0"
"8","22F4E703-9051-46C0-B276-CE2496D42E74","","15","0","Doc Fee","50.0000","","1","1"
"11","9124B18E-319C-48A3-9DE6-8E424C7B4561","","90","0","Arrangement Fee","7575.0000",""
"12","9124B18E-319C-48A3-9DE6-8E424C7B4561","","90","0","Arrangement Fee","7575.0000",""

```

The right-hand pane shows the "Data Source" and "Data Table" properties. The "Data Source" is "FEES on SATURN" and the "Data Table" is "Feeds". The "Data Table" properties include: Columns (Collection), Constraints (Collection), DisplayExpression, MinimumCapacity (50), PrimaryKey (DataColumn), TableName (Feeds), and Namespace.



The screenshot shows the Indigo DQM Data Management Studio interface. The main window displays a SQL query titled "Query View - FEES on SATURN". The query is a SELECT statement with a FROM clause and an ORDER BY clause. The query is executed successfully, and the results are displayed in a table with 12 rows. The interface includes a menu bar, a toolbar, and a sidebar with various data sources and queries.

**Query View - FEES on SATURN**

```

SELECT * FROM Fee Order By Amount Desc

```

**Data Source**

**Data**

Case Sensitive: False  
Data Set Name: Fees  
Namespace:  
Prefix:  
Locale: en-US  
Relations: (Collection)  
Tables: (Collection)  
Misc:  
Formatting: Xml  
Enforce Constraints: True

**Data Set Name**

The name of this Dataset.

**Data Table**

**Data**

Columns: (Collection)  
Constants: (Collection)  
Display Expression:  
Minimum Capacity: 50  
Min/Max Key: DataColumn  
Table Name: Fees  
Namespace:  
Prefix:  
Misc:  
Case Sensitive: False  
Formatting: Xml  
Locale: en-US

**Table Name**

Indicates the name used to look up the table in the Tables collection of a DataSet.

The screenshot shows the Indigo DQM Data Management Studio interface. The main window displays a 'Query View - FEES on SATURN' with a SQL query and its execution results. The results are shown in a table titled 'Fee Report' with columns 'Name' and 'Amount'. The table lists various fees such as Completion Fee, Doc Fee, Test Fee, and Arrangement Fee. The interface includes a left sidebar with a tree view of data sources, a top menu bar, and a right sidebar with metadata for the selected data set.

**Query View - FEES on SATURN**

Encrypted Client Fees Query  
 Author: Adrian James Evans, A/E Consulting  
 Email: adrian@aeconsulting.co.uk  
 Web: www.aeconsulting.co.uk  
 Date: Feb 2015

SELECT \* FROM Fee Order By Amount Desc

Line: 1 Col: 1 A/E.CreditEngine 268 Char(s)

**Fee Report**

Indigo DRS Fee Report

Example Indigo Scape DRS Report with Data Tables and Charts...

Name	Amount
Completion Fee	£15.00
Completion Fee	£15.00
Completion Fee	£15.00
Completion Fee	£15.00
Doc Fee	£25.00
Cool Doc Fee	£25.00
Doc Fee	£25.00
Doc Fee	£25.00
Test Fee	£50.00
Doc Fee	£50.00
Arrangement Fee	£5,375.00

**Data Sources**

Data Set Name: FEES  
 Namespace: en-US  
 Locale: en-US  
 Relations: (Collection)  
 Tables: (Collection)  
 Misc: RemotingFormat: Xml, EnforceConstraints: True

**Data Table**

Data Set Name: FEES  
 The name of this Data Set.

Table Name: FEES  
 Indicates the name used to look up this table in the Tables collection of a Data Set.

**Properties**

Command Timeout: 0  
 Name: FEES on SATURN  
 Data Source Type: Microsoft SQL Server  
 Encrypt Connection String: True  
 Connection String: D:\Development Testing\Indigo DQM\Data\SUS

**Data XQuery**

XQuery Engine: Default  
 XQuery Enabled: True  
 XQuery Source: Command\_Test  
 XQuery Encrypted: False  
 XQuery Test: /Fees  
 XQuery File: Infer  
 XQuery Schema Option: Infer

**Data XSLT**

Enable XSLT: False  
 Encrypted XSLT: False  
 XSLT Source: Shared\_File  
 XSLT Embedded: Infer  
 XSLT Location: Infer

**Data Results** **Data Schema** **Messages**

✓ Data Command Query Executed Successfully

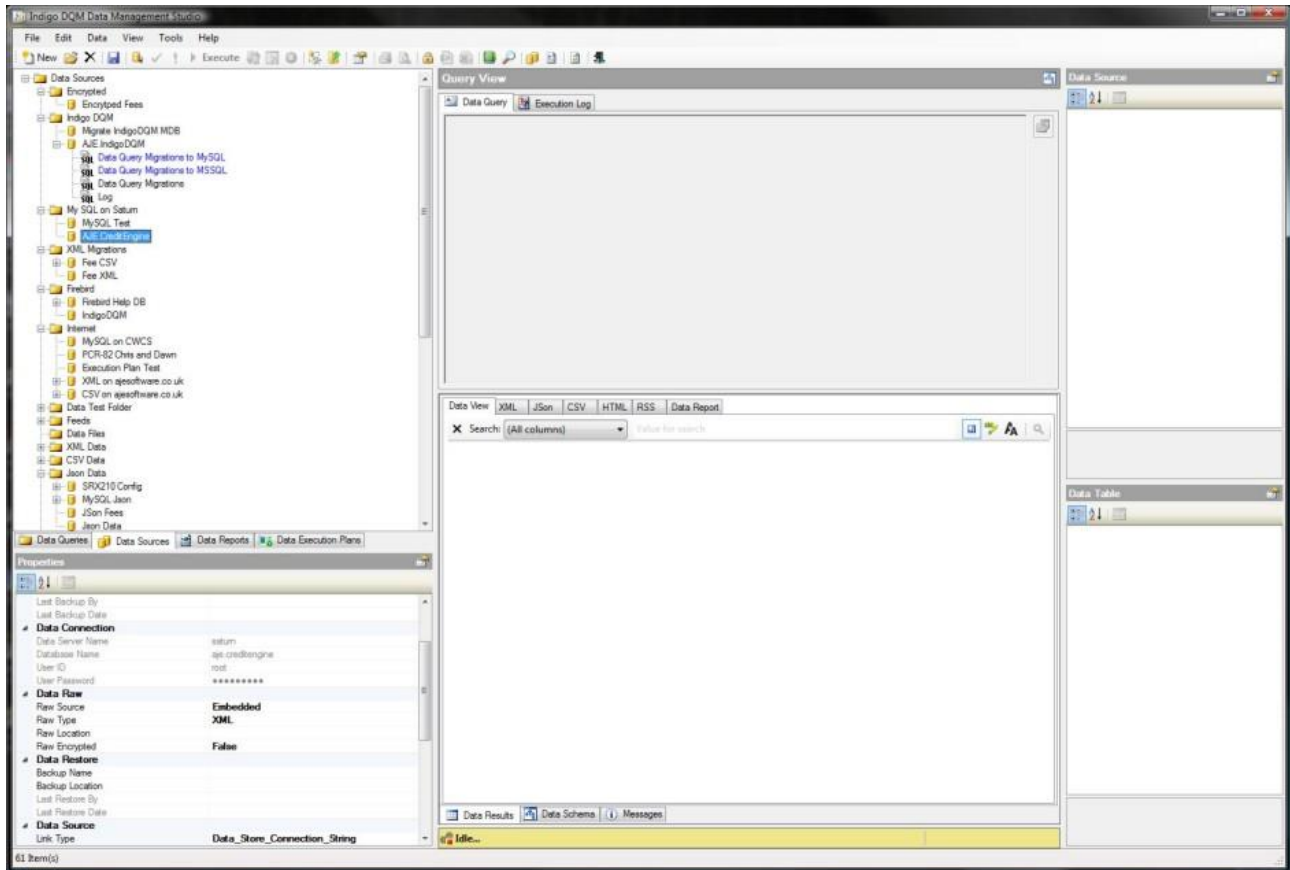
179 Item(s) Store: A/E\IndigoDQM0.mdb Computer: JUPITER

## Creating a shared Data Source

You can create a private Data Source that a specific Data Command Query uses or create shared Data Source.

Shared Data Sources can be used by all Data Command Queries in the System.

For this example we shall create a shared Data Source. Select the Data Sources Tab from the Data Management Studio.



Indigo DQM supports multiple Data Sources and Types including Microsoft SQL Server, Microsoft Access, ODBC, OLEDB, MySQL, Oracle, Postgre, Firebird, XML, JSon and CSV.

The Indigo DQM Data Management Engine is unique in its ability to handle multiple Data Sources and Types simultaneously making it transparent to virtually all Data Sources.

## Creating an MS SQL Server Data Source

Specify a Name for the Data Source and a Folder. The Data Source Link Type is a Connection String in the Data Store.

The screenshot shows the 'Data Source - New' dialog box. It has three tabs: 'Details', 'Data Row', and 'Notes'. The 'Details' tab is selected. The dialog contains the following fields and controls:

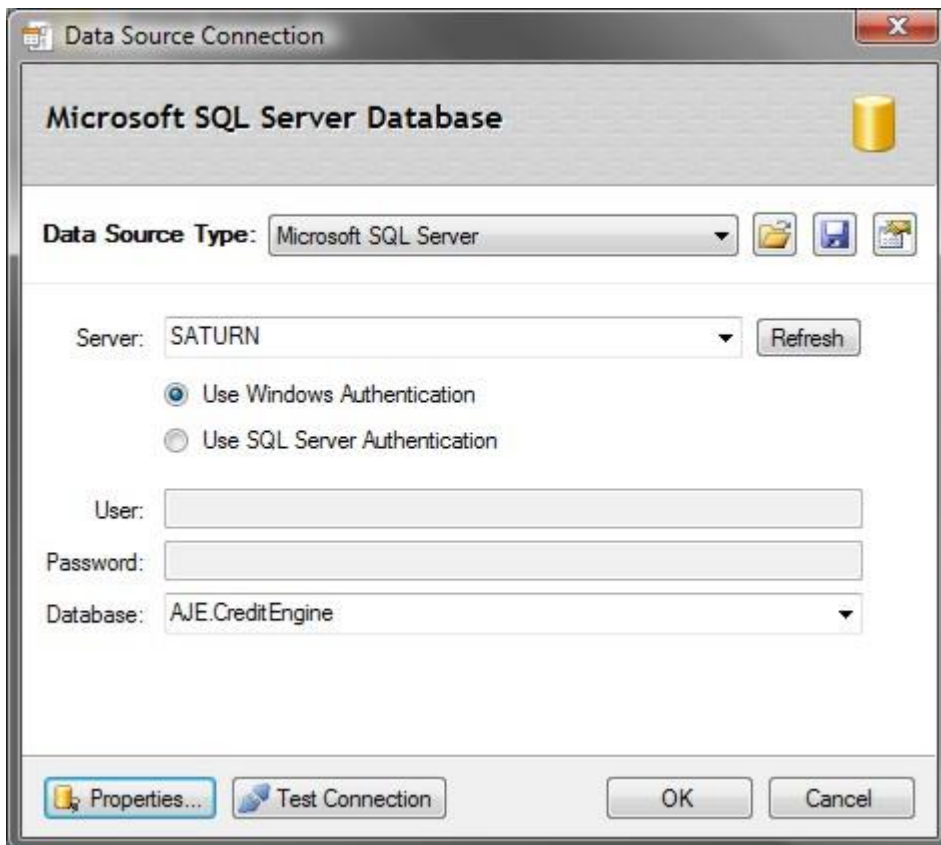
- Name:** A text input field.
- Description:** A text input field.
- Reference:** A text input field.
- Folder:** A dropdown menu showing 'MS SQL' with a '+' button next to it.
- Data Link Type:** Two radio buttons: 'Data Store Connection String' (selected) and 'Data Store Raw'.
- Connection String:** A large text area for entering the connection string.
- Encrypt Connection String:** A checked checkbox.
- Type:** A dropdown menu showing 'Microsoft SQL Server'.
- Server:** A text input field.
- Database:** A text input field.
- Buttons:** 'Properties', 'OK', and 'Cancel' at the bottom.

## Data Source Connection

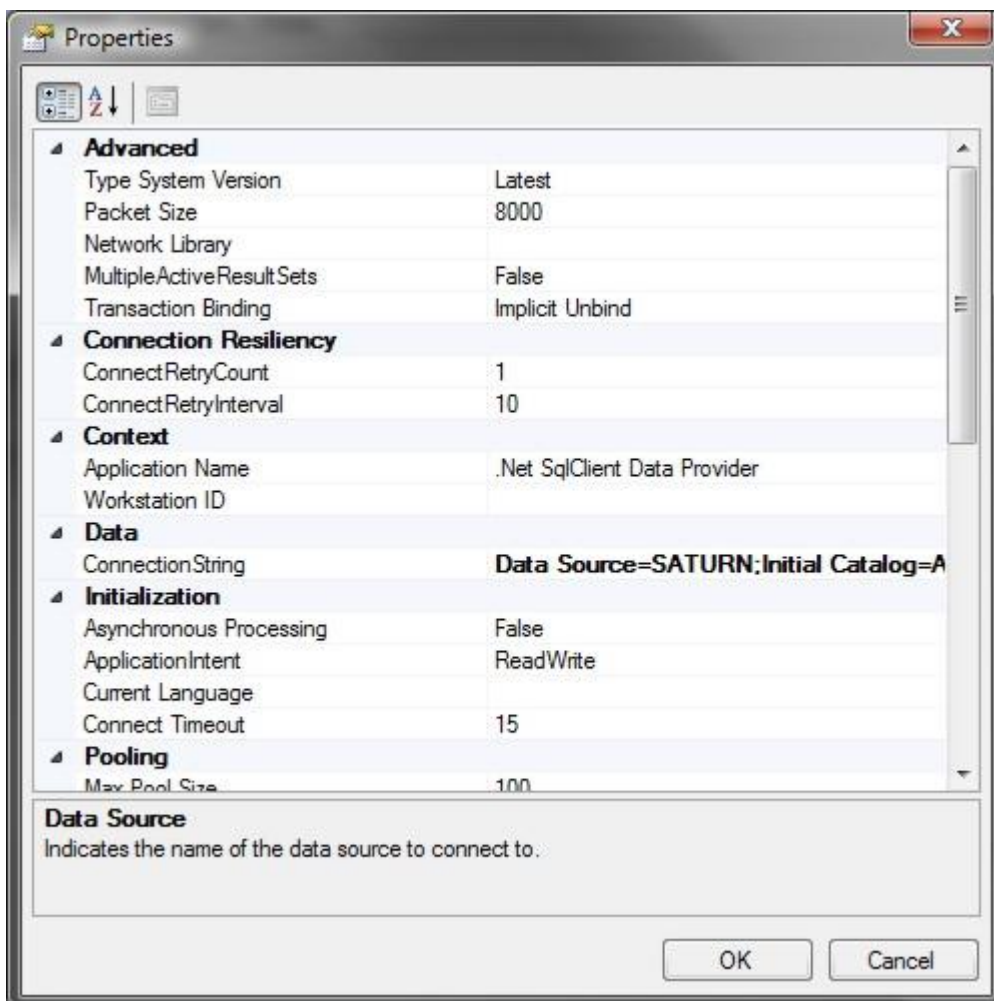
Specify the Data Source Connection parameters by selecting the Data Source Type and Connection String from the Connection Dialog.

A Data Source can be a Connection String to a specific Data Source Type such as a Microsoft Access Database, Microsoft SQL Server or MySQL.

Shared Data Sources can also contain Raw Data in the form XML, JSon or Comma Separated Values (CSV).



#### Advanced MS SQL Connection Properties





## Shared Data Source Connection to MS SQL Server

The screenshot shows a Windows-style dialog box titled "Data Source - Editing". It has three tabs: "Details", "Data Row", and "Notes", with "Details" currently selected. The main area is titled "Data Source" with a yellow cylinder icon. The configuration fields are as follows:

- Name:** SATURN
- Description:** MS SQL Data Source on Saturn
- Reference:** (empty text box)
- Folder:** MS SQL (with a dropdown arrow and a "+" button)
- Data Link Type:** ☒ Data Store Connection String, ☐ Data Store Raw
- Connection String:** Data Source=SATURN;Initial Catalog=AJE.CreditEngine;Integrated Security=True (with a text box and a "Show/Hide" icon)
- Encrypt Connection String:** ☒
- Type:** Microsoft SQL Server
- Server:** SATURN
- Database:** AJE.CreditEngine

At the bottom, there are three buttons: "Properties", "OK", and "Cancel".

## Data Source Files

Data Source Files can be XML, JSon, CSV or TXT. These Data files can be local, files on a network or files located on the Internet / Intranet.

**Data Source - Editing**

Details | Data Raw | Notes

**Data Source**

**Name:** XML on ajesoftware.co.uk

**Description:**

**Reference:**

**Folder:** Internet

**Data Link Type:**  
☒ Data Store Connection String  
☐ Data Store Raw

**Connection String:** http://ajesoftware.co.uk/data/category.xml

☒ Encrypt Connection String

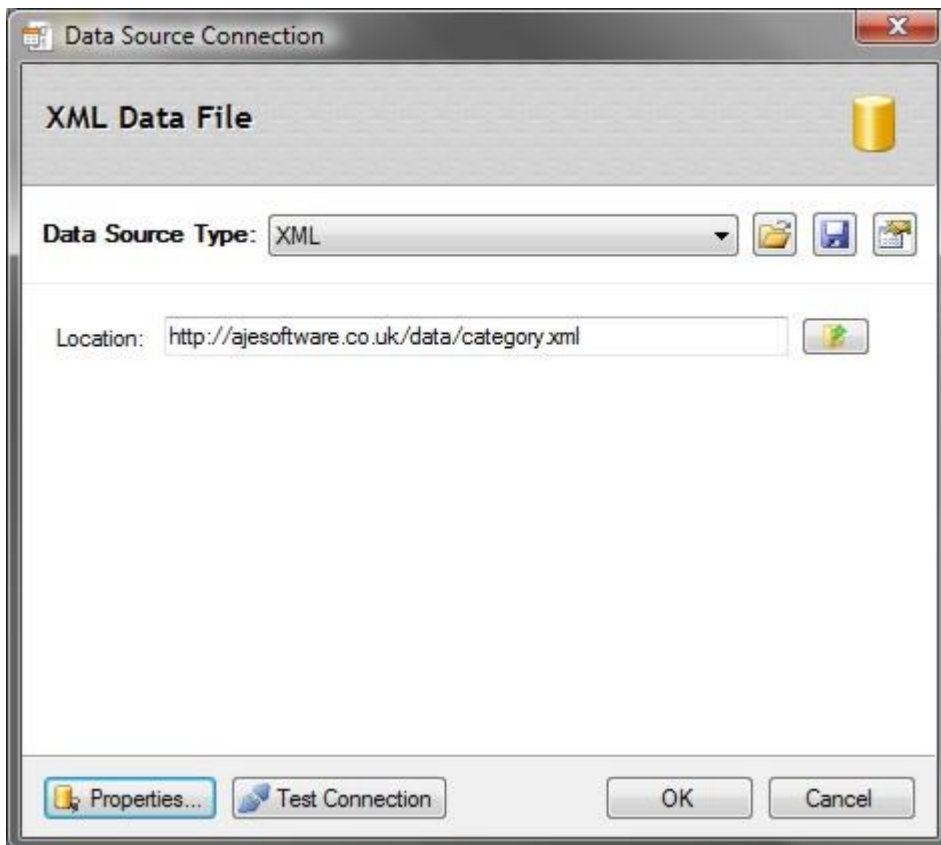
**Type:** XML

**Server:** ajesoftware.co.uk

**Database:** category.xml

Properties OK Cancel

Specify the URI of the CSV, JSon or XML Data Source which can also be a File on the Internet.



The URI properties of the Data Source allow the parameters to be defined for Host, User Name and Password if required.

Encrypted Data files can also be downloaded using HTTPS therefore securing Data transmission.

### **Data Security and Encryption**

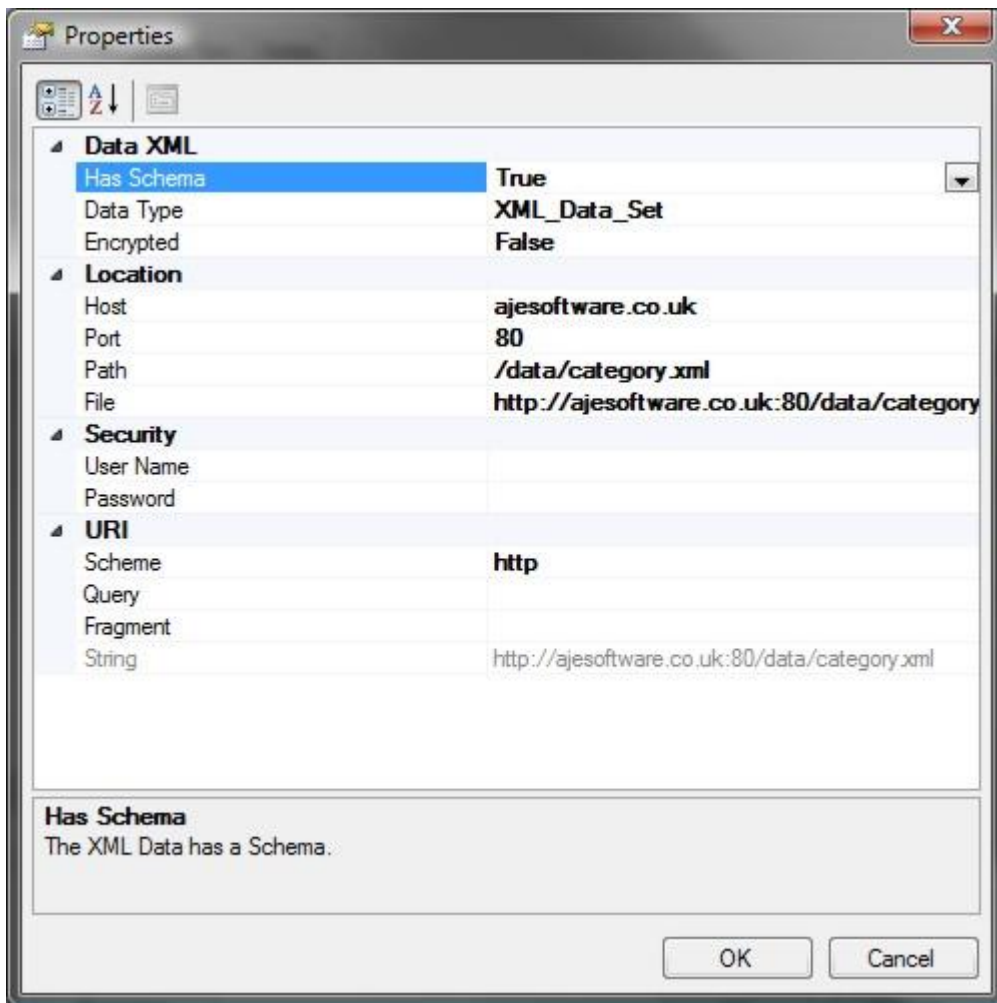
Indigo DQM is the most secure way to manage, query, process and report on your Data Assets.

Because Indigo DQM is a software application that is installed on private computers it has the best security for managing Data on private and public networks where Data security is of the utmost concern and priority.

Delivering a far higher level of security and functionality than any cloud based solutions Indigo DQM ensures your Data Assets are protected at all times.

Featuring AES 256 Encryption your Data Assets can be stored and transmitted across the Internet / Cloud in the most secure way possible.





Enter the Host, Port and Path for the Data and the Security Credentials. If the Data is Encrypted with AES 256 Encryption then set the Encrypted Property to True.

The Advanced Encryption System (AES) uses a 256-bit encryption key. The secure Key must be setup in the Program Settings and Options.

With AES-256 bit encryption you can be assured that you will be the only one who can access your critical information.



## CSV Data Source Files

The name "CSV" indicates the use of the comma to separate data fields. Nevertheless, the term "CSV" is widely used to refer a large family of formats, which differ in many ways.

Some implementations allow or require single or double quotation marks around some or all fields; and some reserve the very first record as a header containing a list of field names.

**Data Source - Editing**

Details | Data Row | Notes

**Data Source**

**Name:** CSV on ajesoftware.co.uk

**Description:**

**Reference:**

**Folder:** Internet

**Data Link Type:**  
☒ Data Store Connection String  
☐ Data Store Raw

**Connection String:** http://ajesoftware.co.uk/data/save\_categories.txt?H=True@S=,@T=False@Q=\"@E=False

☒ Encrypt Connection String

**Type:** CSV

**Server:** ajesoftware.co.uk

**Database:** save\_categories.txt

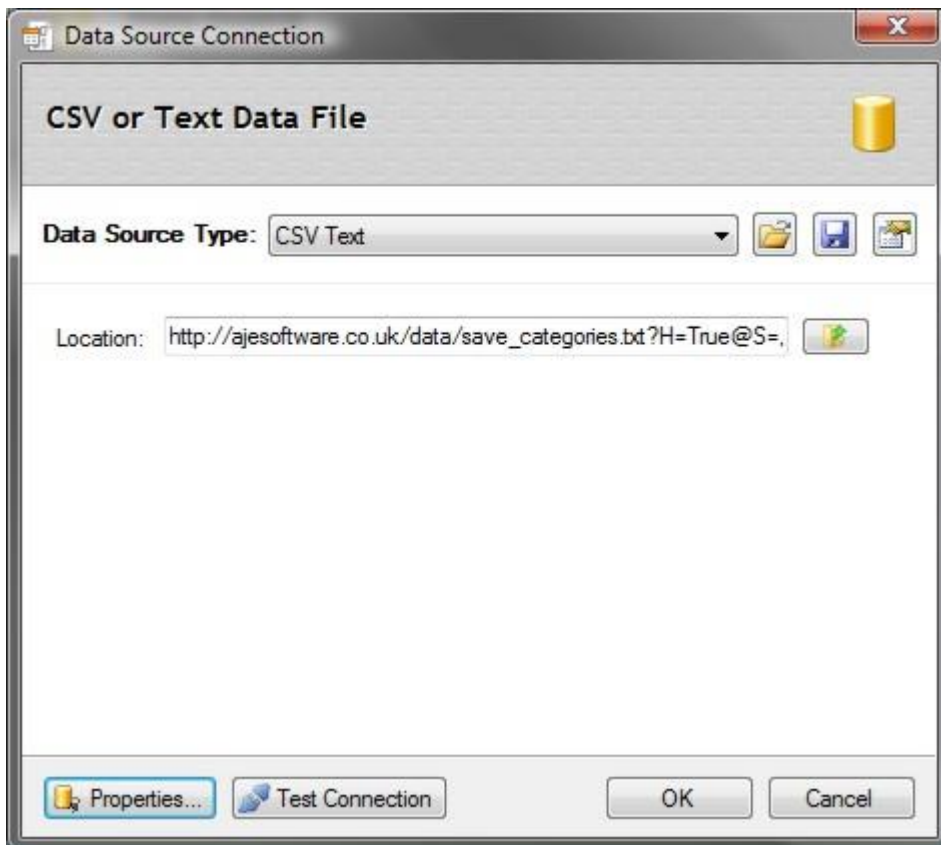
Properties OK Cancel

A comma-separated value (CSV) file stores tabular data (numbers and text) in plain text. Each line of the file is a data record and each record consists of one or more fields, separated by commas or another character used as the separator.

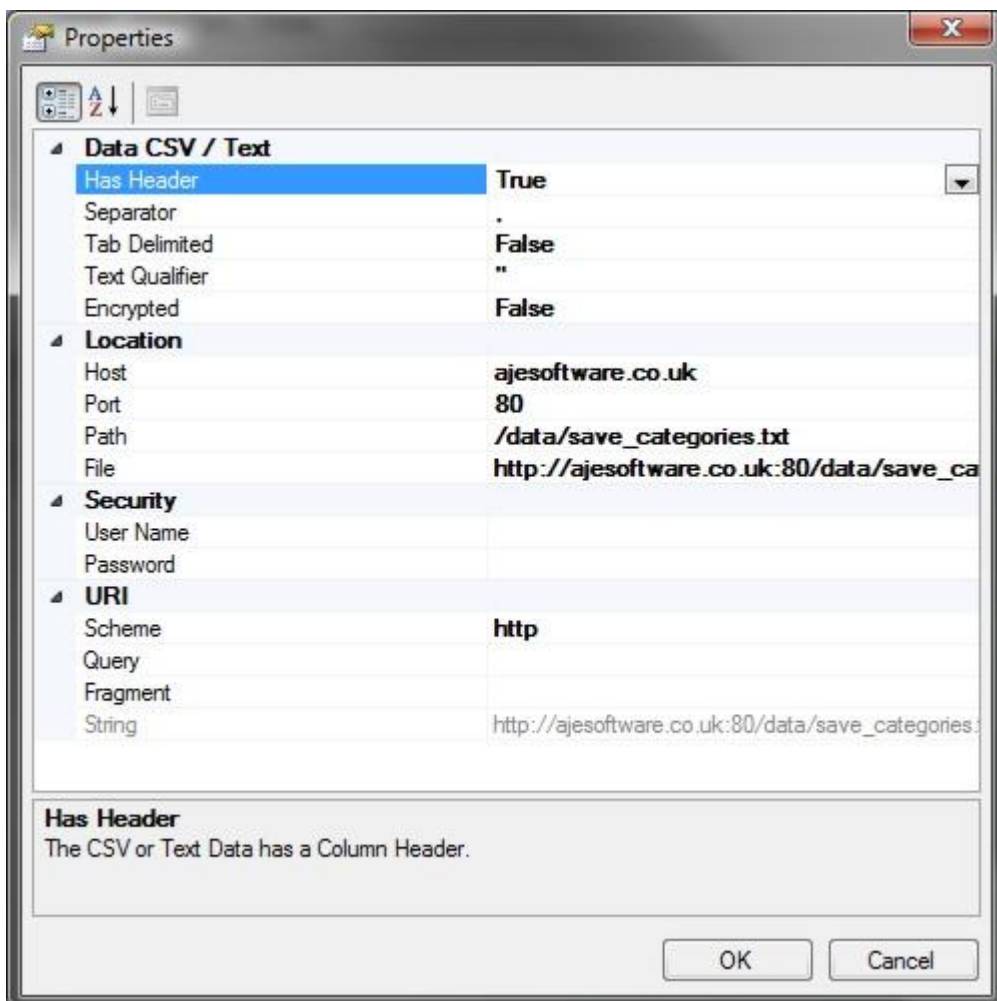
CSV Data can use different characters as the separator and text qualifiers. These characters can be changed when setting up the Data Source to read CSV Data. Additionally, some CSV may or may not have the first line of text as the column header which represents the name of the field in the Data Table. All these options can be setup for the CSV Data Source thus ensuring complete compatibility with all CSV and Text Data Sources.

The URI properties of the Data Source allow the parameters to be defined for Host, User Name and Password if required. Encrypted Data files can also be downloaded using HTTPS therefore securing Data transmission.

Pulling Data down from the Internet / Cloud is a useful and powerful feature of Indigo DQM.



#### Advanced Properties of the CSV Data Source File



## Creating a Raw Data Source

Select the Location Radio Buttons to Select the Data Store Source as Raw Text or a File.

To store XML Data in the Data Store select either the XML Data Set or XML Document option.

The screenshot shows the 'Data Source - Editing' dialog box with the 'Data Raw' tab selected. The 'Raw Data Type' dropdown is set to 'XML'. The 'Raw Text' radio button is selected, and the text area contains XML data for two fees. The 'Raw File' radio button is unselected, and the 'Raw Data is Encrypted' checkbox is also unselected. The dialog has 'Properties', 'OK', and 'Cancel' buttons at the bottom.

**Data Source - Editing**

Details | **Data Raw** | Notes

**Data Raw**

Raw Data Type: XML

☒ Raw Text:

```
<Fees>
<Fee>
  <FeeID>1</FeeID>
  <GUID>408BD6B2-C7E1-44D3-BF62-
6E1FC7A8A1EA</GUID>
  <LoanID>4</LoanID>
  <PartyID>0</PartyID>
  <Name>Cool Doc Fee</Name>
  <Amount>25.0000</Amount>
  <Period>1</Period>
  <Spread>1</Spread>
  <PaidWhen>0</PaidWhen>
</Fee>
<Fee>
  <FeeID>2</FeeID>
  <GUID>4588BFA3-636C-4C36-A141-
1751D4860519</GUID>
  <LoanID>4</LoanID>
  <PartyID>0</PartyID>
  <Name>Completion Fee</Name>
  <Amount>15.0000</Amount>
  <Period>1</Period>
  <Spread>1</Spread>
  <PaidWhen>2</PaidWhen>
</Fee>
</Fees>
```

☐ Raw File:

☐ Raw Data is Encrypted

Properties OK Cancel

Paste the Raw Data into the Text Box or open the Editor to select the Data Source.

Check the Encrypt option to Encrypt the Raw Data using AES 256 Encryption.

## Data Source Advanced Properties

To view and edit advanced properties click the Advanced button. Advanced options allow the configuration of extra settings.

**Data Source Properties**

**Data Connection**

Data Server Name: SATURN  
Database Name: AJE.CreditEngine  
User ID:  
User Password:

**Data Link**

Link Type: Data\_Store\_Connection\_String

**Data Namespace**

Namespace Prefix:  
Namespace URI:

**Data Raw**

Raw Source: Embedded\_Text  
Raw Type: XML  
Raw Text:  
Raw File:  
Raw Encrypted: False

**Data Restore**

Backup Name:  
Backup Location:  
Last Restore By:  
Last Restore Date:

**Data Source**

**ID** (selected): 93  
GUID: 161957ec-cf7d-4cc8-9e9d-bef60eaea27e  
Name: SATURN ON MSSQL  
Description: MS SQL Data Source on Saturn  
Reference:  
Notes: Test  
Connection String: Data Source=SATURN;Initial Catalog=AJE.CreditEngine;Integ  
Command Timeout: 30  
Data Source Type: Microsoft\_SQL\_Server  
Encrypt Connection String: True

**Time Stamps**

Created Date: 14/11/2017 19:15  
Modified Date: 14/11/2017 19:16

**User Names**

Created By: AJEBUSINESS\adrian  
Modified By: AJEBUSINESS\adrian

**ID**  
The ID of the Data Source.

OK Cancel



## Create a new Data Command Query

**Data Command Query - New**

Details | Query | Data Reports | Data Outputs | Migrate | Scheduling | Security | Log | Notes

**Data Query Details**  
The Data Source can be either private to the Data Query or a Shared Data Source used by multiple Queries.

Name:  Folder:  +

Description:

Reference:

Data Name:  Namespace URI:

Table Name:  Prefix:

☐ Add Execution Data to Result Output

**Data Source**

☒ Private Source:

☒ Encrypt Connection String

☐ Shared Source:  +

Data Source Type:

**Run Options**

☐ Enable Auto Execution on Selection

Advanced OK Cancel

You can also run a custom script or program after the Data Command completes if further processing is required.

The script can be VBS script that may do additional processing on the Data result outputs if saved to a file or directory.

### Add Execution Data

Execution Data can be added to the Result XML which can be used for reporting information. Check the option and Execution parameters will be included in the XML Data such Execution Time, Username etc.

Select the Shared Data Source option and select the Data Source previously created as an example.

The screenshot shows the 'Data Command Query - Editing' window with the 'Details' tab selected. The 'Data Query Details' section includes fields for Name, Description, Reference, Data Name, and Table Name. The 'Data Source' section has two options: 'Private Source' and 'Shared Source'. The 'Shared Source' option is selected, and a dropdown menu shows 'SATURN DATA' as the chosen data source. The 'Data Source Type' is set to 'Microsoft SQL Server'. The 'Run Options' section has an unchecked checkbox for 'Enable Auto Execution on Selection'. A folder tree on the right shows the hierarchy of data sources, with 'Finance Queries' selected.

**Data Command Query - Editing**

Details | Query | Data Reports | Data Outputs | Migrate | Scheduling | Security | Log | Notes

**Data Query Details**  
The Data Source can be either private to the Data Query or a Shared Data Source used by multiple Queries.

**Name:** FEES on SATURN! **Folder:** Finance Queries

**Description:** A simple query to demonstrate the power of system :-)

**Reference:**

**Data Name:** Fees **Namespace UR**

**Table Name:**

☒ Add Execution Data to Result Output

**Data Source**

☐ Private Source: Data Source=SATURN;Init Catalog=AJE.Credit Engine;

☒ Shared Source: SATURN DATA

☒ Encrypt Connection String

**Data Source Type:** Microsoft SQL Server

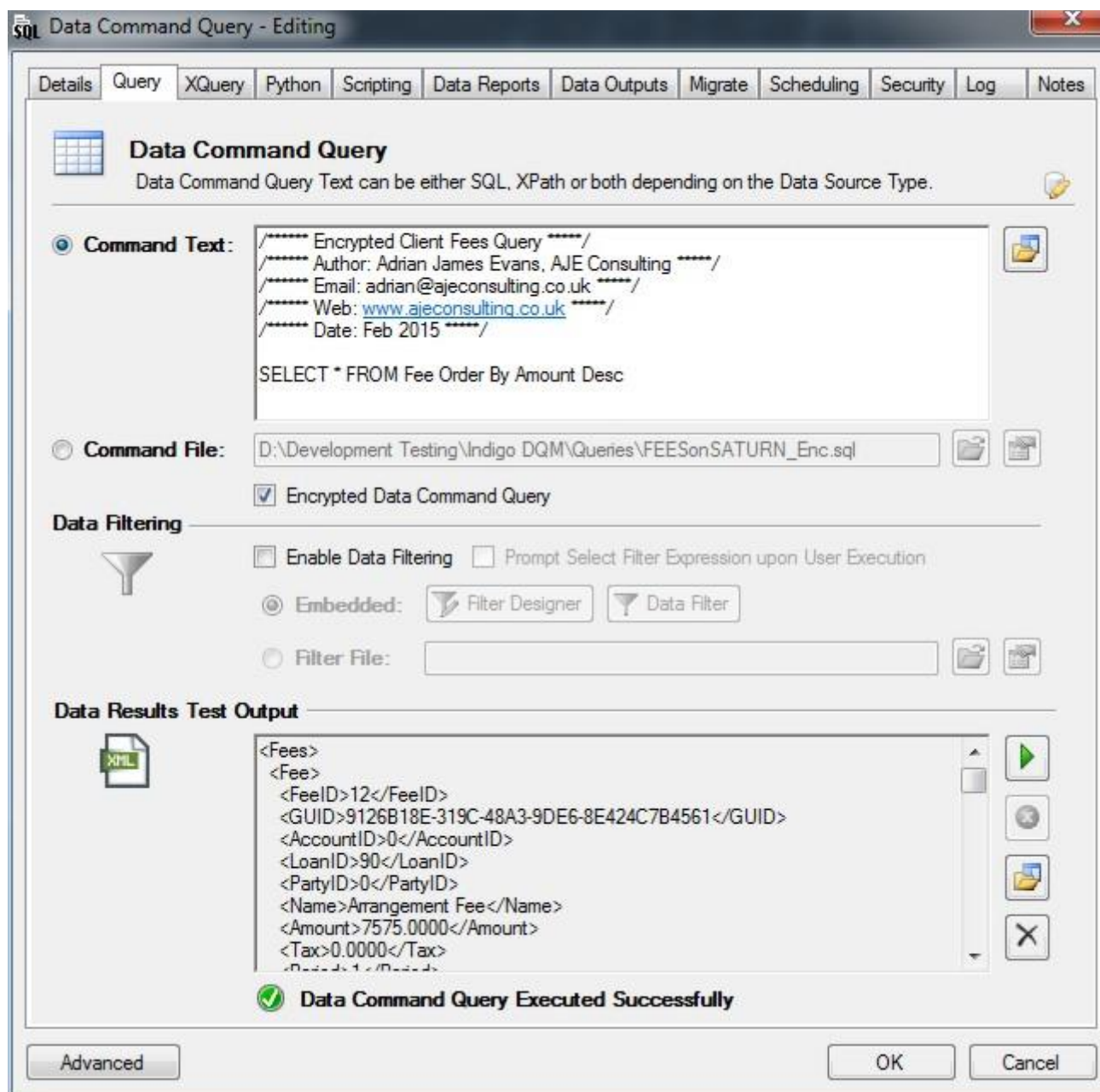
**Run Options**

☐ Enable Auto Execution on Selection

Advanced OK Cancel

## Testing the Data Command

The Data Command Queries can be tested before deployment using the Query Tab.



Testing the Data Source you can also apply XPath to the Data Source if CSV or XML. If the Data Source is a Database you can apply SQL and / or XPath to that Database using the SQL dialect for that particular Data Source.

## Data Command Files

Data Command Files are useful for sharing Queries with multiple Data Commands in the System. If you have a Query used by several Data Commands create a Command File by saving the Query to File and then pointing the Data Command Query to the Command File.

This is a more efficient way to share Command Text for support and maintenance should the Data Command need changing.

## Encrypting the Data Command

The Data Command Query can be Encrypted for added security using the Advanced Encryption System (AES) with a 256-bit encryption key. Check the option and the Data Command will be Encrypted in the Data Store. If the option is Enabled for the Command File then the Command File must be Encrypted by the System. You can Save a Data Command Query from the Query Designer and use the Encryption Tool to Encrypt the Command File.

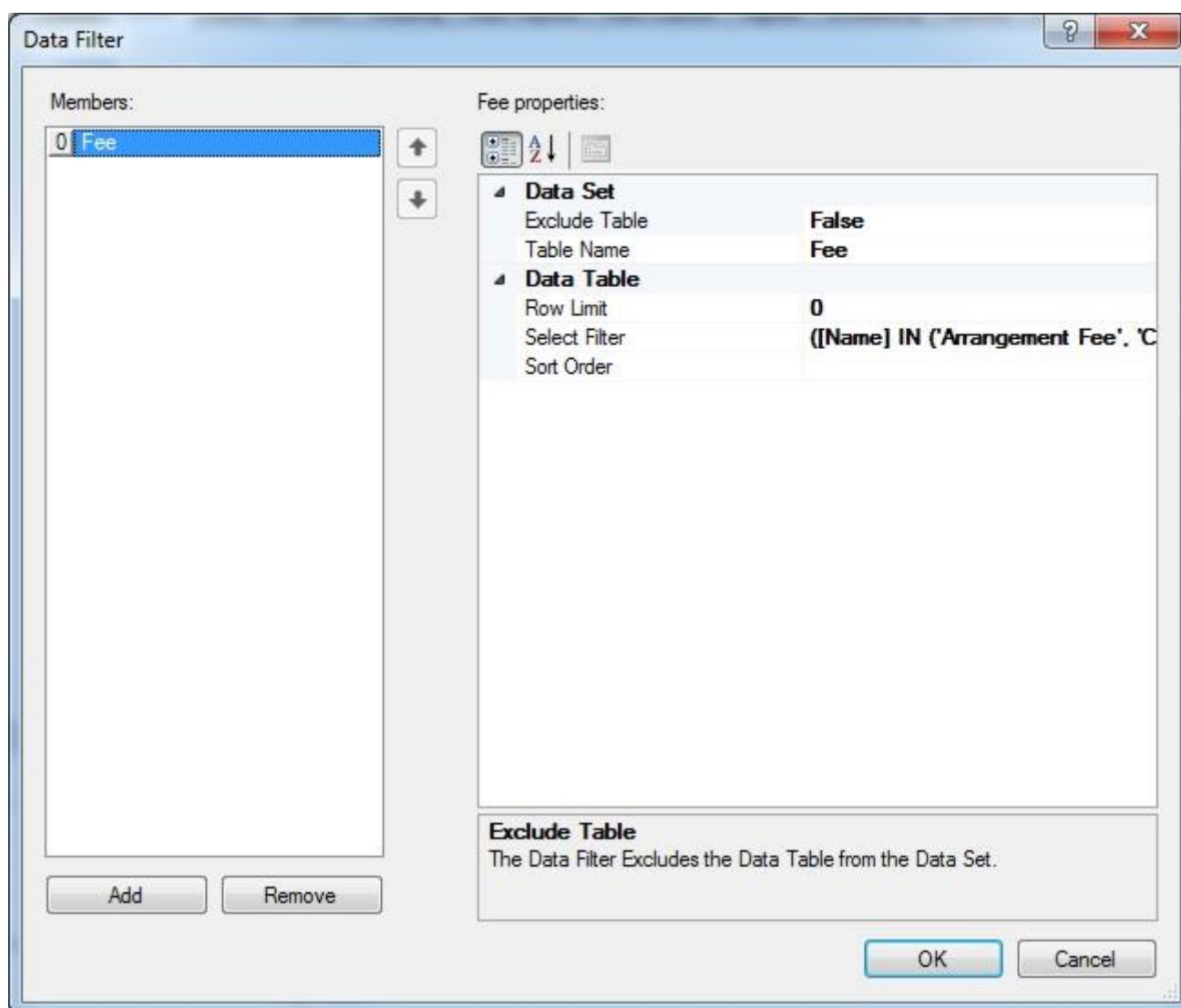
A secure Password must be setup in the Program Settings and Options or applied to an individual Data Asset Store. By default a global Encryption Password will be used but it is recommended that you create your own unique Password.

Encryption Passwords must match when Encrypting / Decrypting Data. It is recommended that a copy of your Password be stored in a secure Location. If you lose the Password it will be impossible to Decrypt any Encrypted Data.

## Enabling Data Filtering and Sorting

A Data Filter can be applied to the Data Command Query to return even more specific results. To Enable Data Filtering check the option and either Add member(s) to the Data Filter manually or use the Filter Designer.

For example, in the above Test Data if a Select Filter is applied for Name = 'Cool Doc Fee' then only the Fees with this Name will be returned. Also, additional sorting can be applied to the Data Command Query to sort results by specific Data Columns.



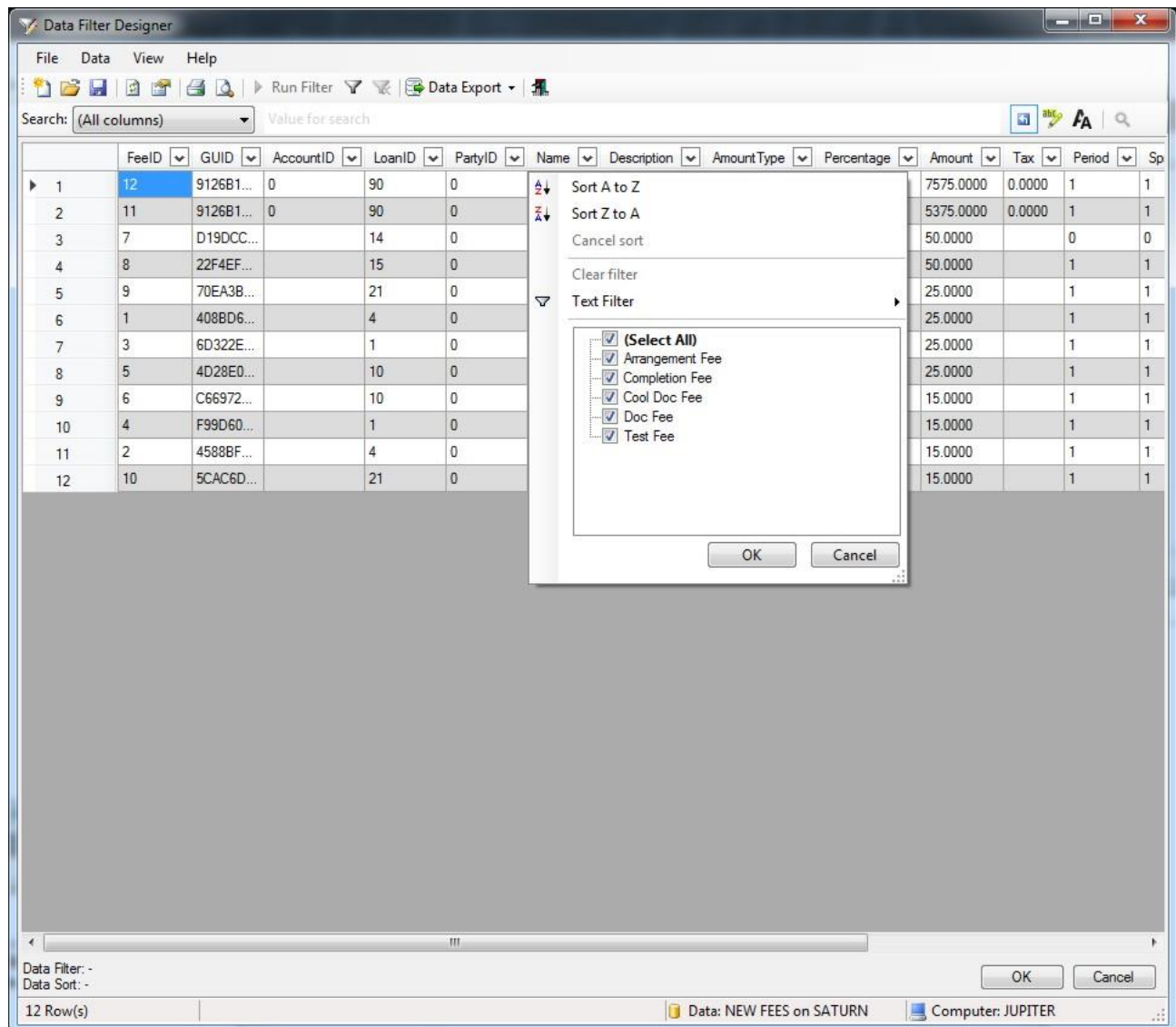


## Enabling a Result Limit

The results can be limited to a maximum number of Data Rows by enabling the Result Limit option. Select the maximum number of Data Rows to be returned before the Data Command stops Executing.

## Data Filter Designer

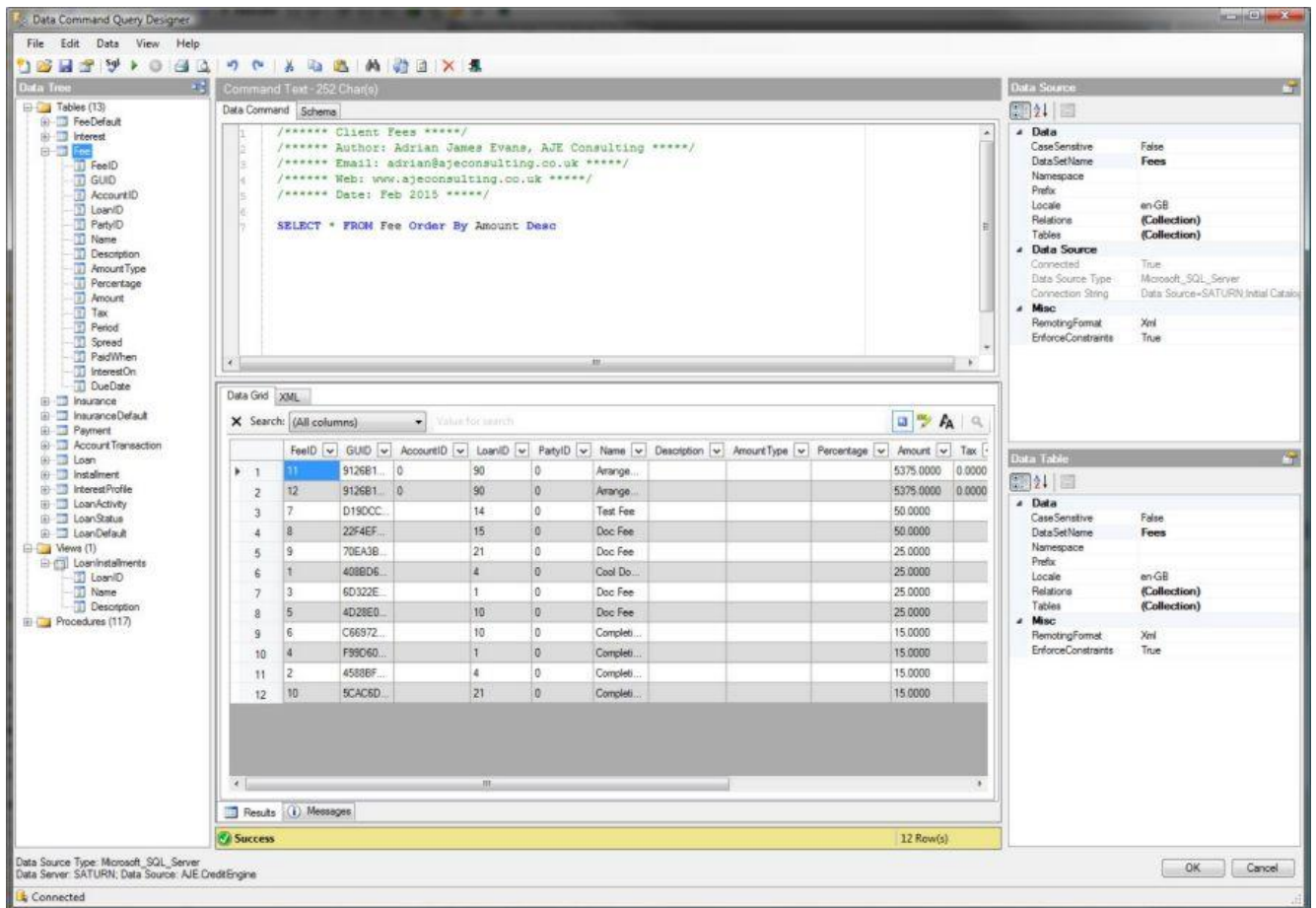
The Data Filter Designer can be used to design Data Filters and Sorting on Data Columns.



Select the Data Columns to Filter and / or Sort from the Dropdown lists in the Column Headers.

## Using the Data Command Query Designer

The Data Command Query designer gives a logical view of the Data Schema.



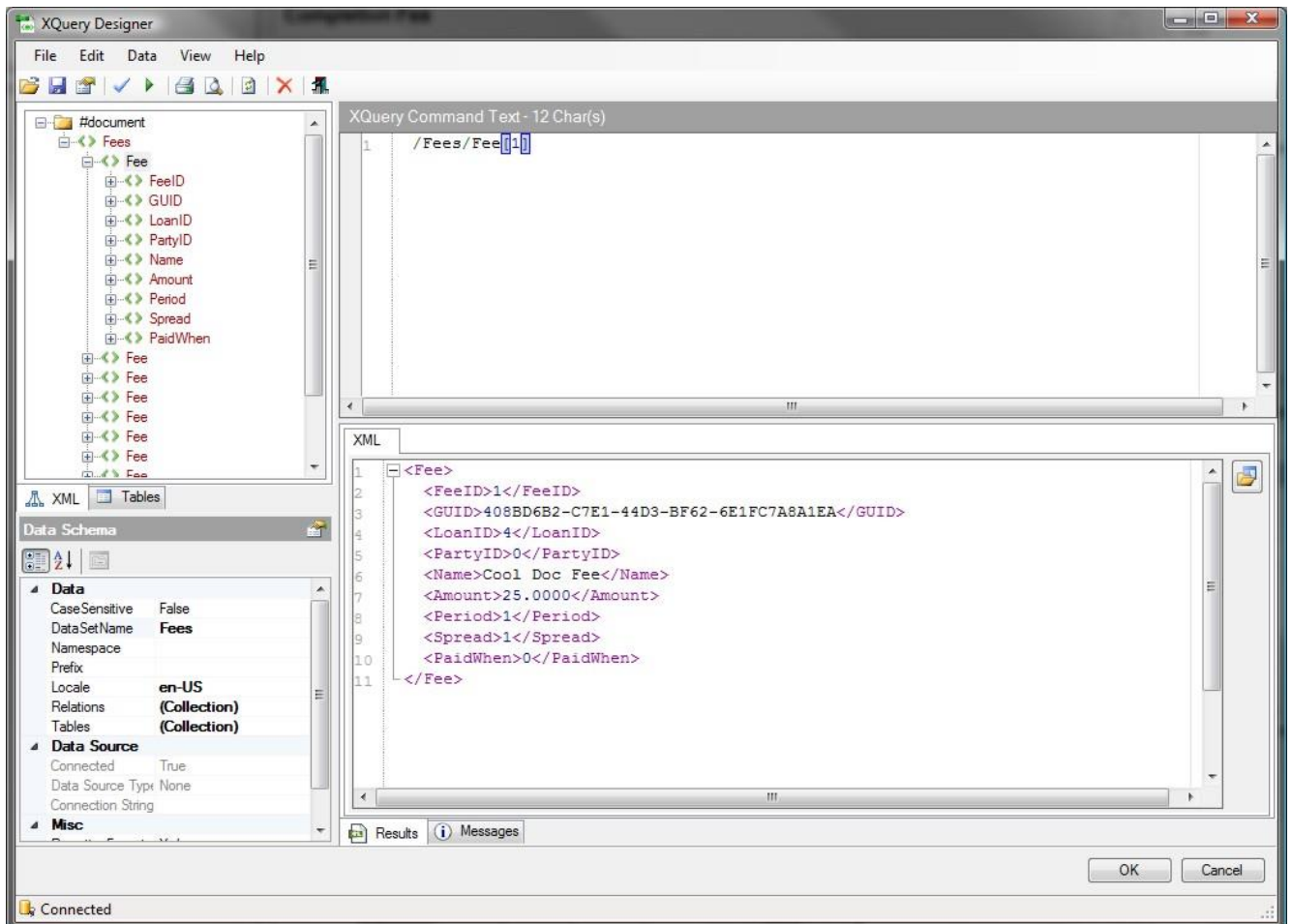
The Data Command Query designer allows complex queries to be created and tested before deployment. The Data Grid result outputs can be filtered by column accordingly.

## XQuery Designer

XQuery is a query and functional programming language that is designed to query and transform collections of structured and unstructured data, usually in the form of XML (Extensible Markup Language).

The XQuery Designer shows a logical view of the XML Data in a Treeview. Data can be queried using XQuery Commands and the Results displayed below.

XQuery contains a superset of XPath expression syntax to address specific parts of an XML document.

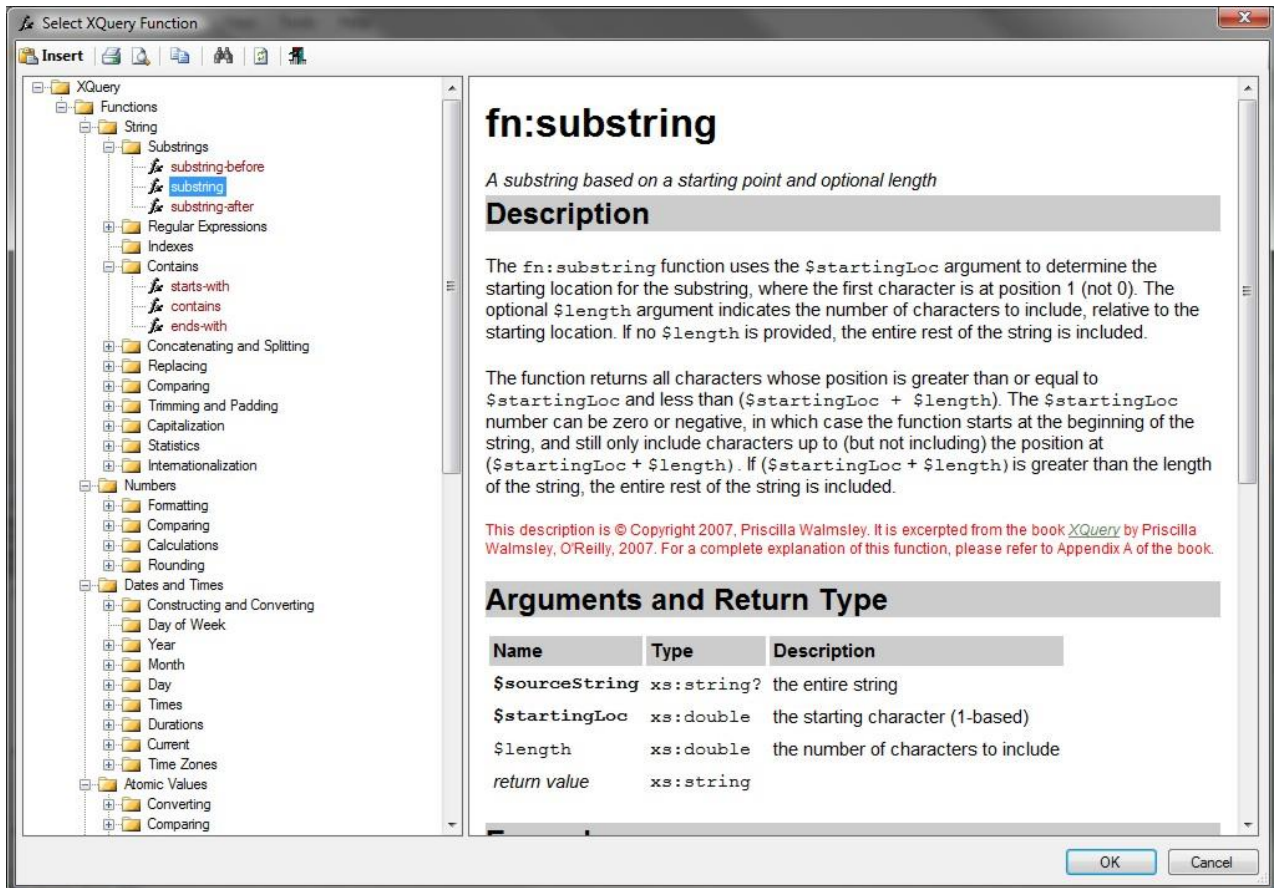


XQuery provides the means to extract and manipulate data from a Data Source.

The language is based on the XQuery and XPath Data Model (XDM) which uses a tree-structured model of the information content of an XML document.

## Inserting an XQuery Function

Predefined XQuery Functions can be Inserted into the XQuery using the Function Tool.

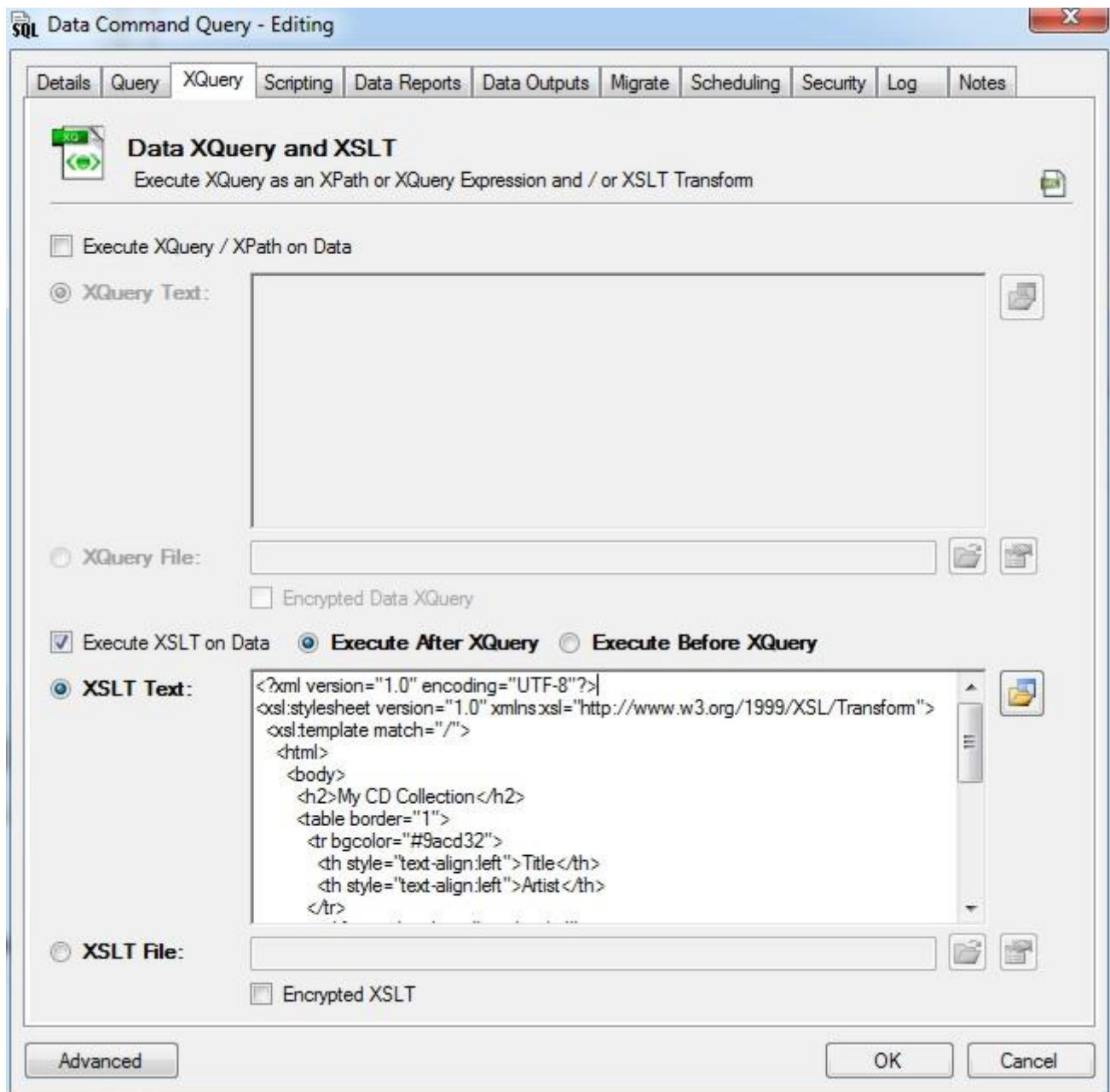




## Data Transforms XSLT

XSLT features Extensible Stylesheet Language Transformations which is a language for transforming XML documents into other XML documents or other formats such as HTML for web pages or plain text.

To specify an XSLT to Transform the Data Check the Execute XSLT on Data Checkbox.



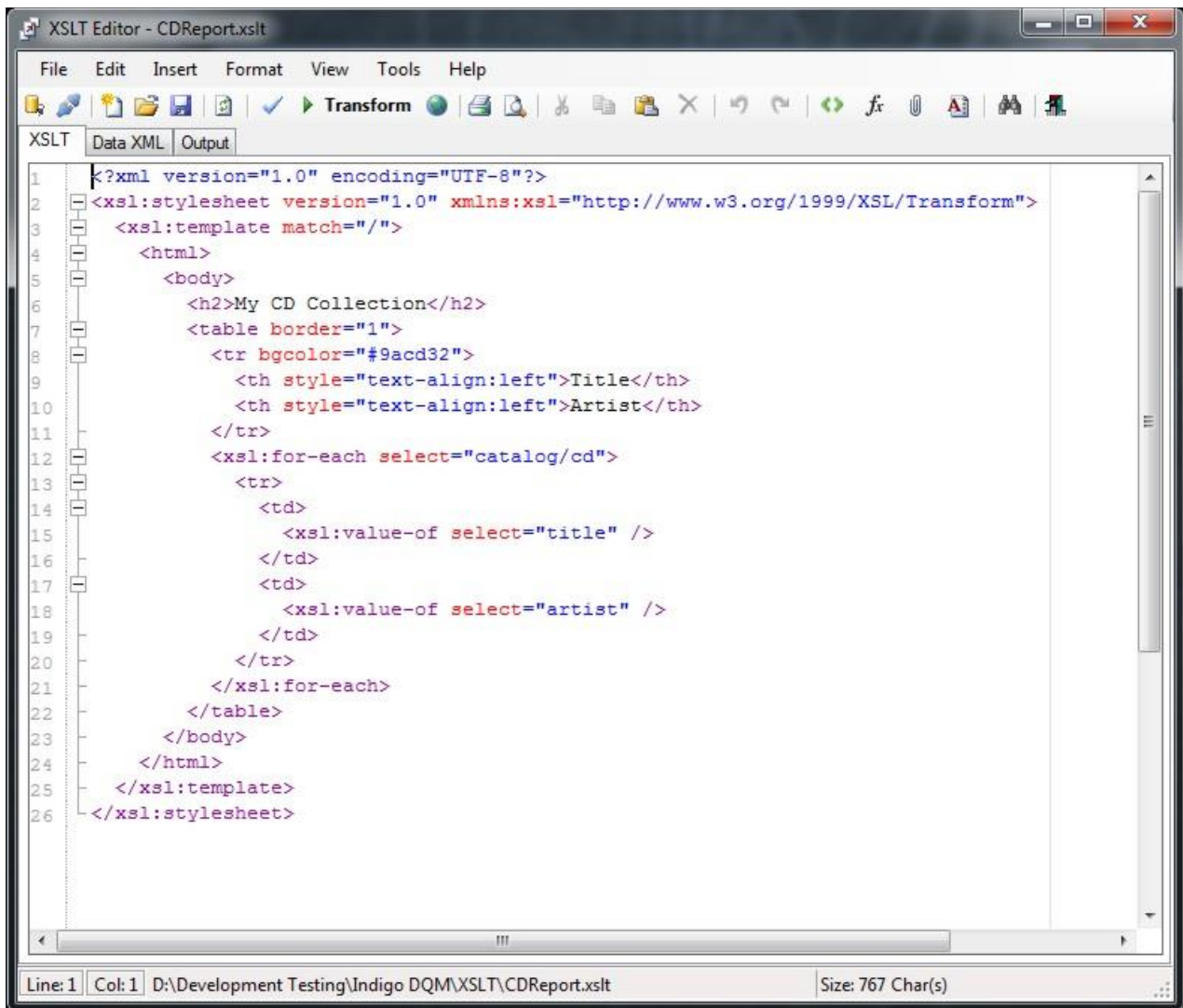
XSLT Embedded into the Data Command to Transform the Data Output.

### XSLT Execute When

The XSL Transform can be Executed either After or Before the XQuery Expression. By default the XSL Transform will be Executed After the XQuery.

## XSLT Editor

The XSLT Editor allows XSL Transforms to be Edited and Tested and the Transformed Outputs Viewed.

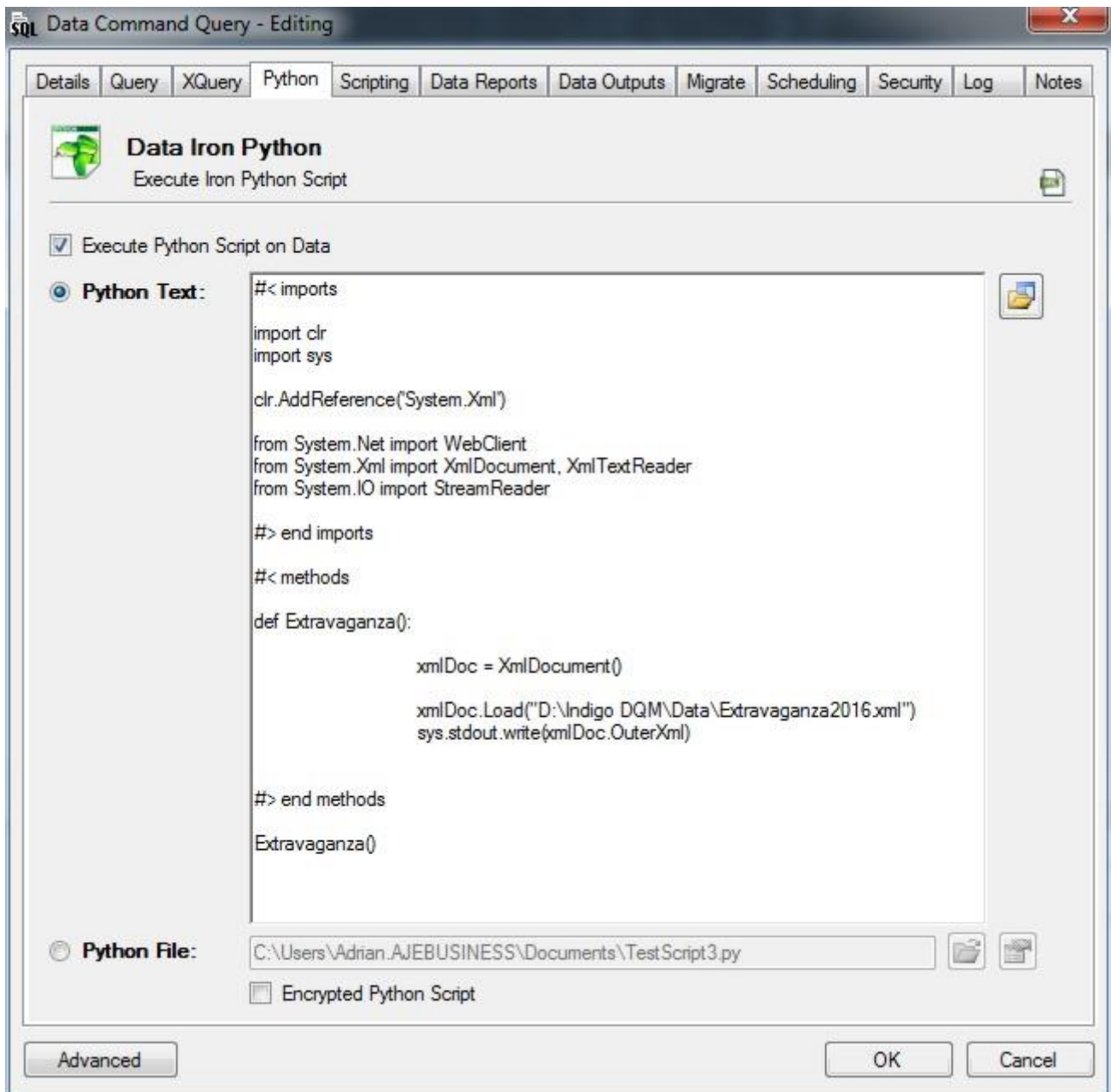


## Data Scripting with IronPython

The Indigo DQM Data Management Engine can run IronPython Scripts for additional Data Processing and / or to Query, Analyze and Transform Data Sources.

IronPython is an implementation of the Python programming language targeting the .NET Framework and Mono.

Select the Python Tab to apply Python Scripting to the Data Command Query or the Execution Plan.



Enable the Execute Python Script option and select the Location of the Script.

The Python Script can be Embedded Text or Python File. Select the Embedded option and open the Script with the Script Editor.

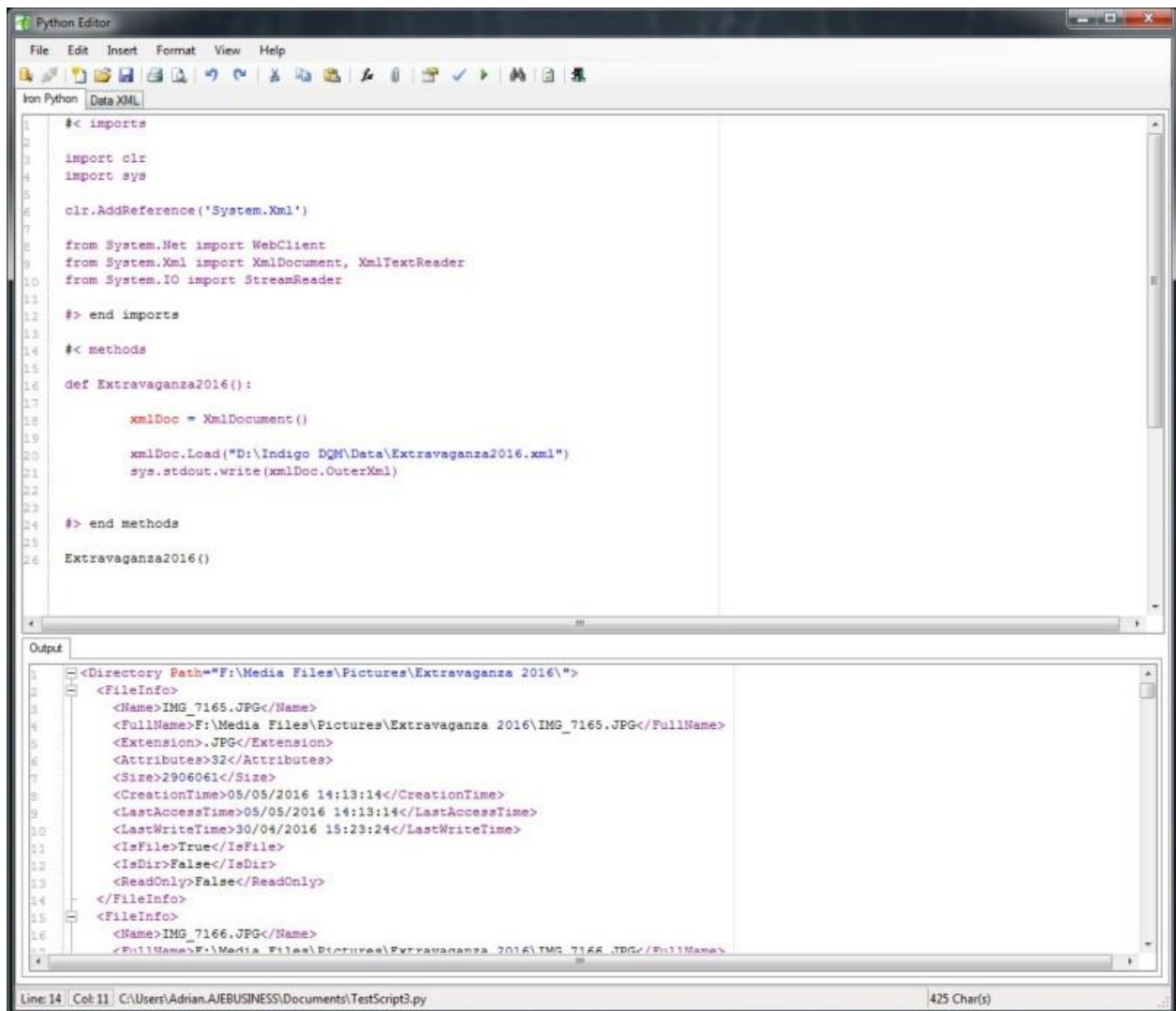
### Python Data Options

In the Advanced settings the Python Data Option can be specified to Update, Merge or Ignore the Output Result Data from the Python Script. Additional custom Data Processing maybe implemented in the Python Script for Data Analyses and / or Data Mining. Also, the Python Script can be Executed After or Before the XQuery / XSLT by setting the Execute When property.

If Update is specified the Result Data will be completely Updated with the Result from the Python Script if it is a valid XML Document or Data Set. If Merge is selected the system will attempt to Merge with the Result Data. Ignore simply Ignores the Data Output from the Python Script.

## Python Script Editor

The Python Editor allows Python Scripts to be Edited, Verified and Executed before deployment. The Outputs can be viewed in the Output Window.



IronPython can use the .NET Framework and Python libraries, and other .NET languages can use Python code just as easily.

The Python Editor allows complex Python statements to be Validated and Executed against the Result Data Source.

Result Data is passed into Python as environment variables. Click the Properties button to see the environment variables.

Usually 'DataXML' as an XML Document and 'DataSet' as a Data Set in-memory cache of Data.

## Searching Data Command Queries

Data Queries can be searched for using the Query Name, Reference and Execution Time.

If the Data Asset Store contains many Queries it may be necessary to quickly locate a Query by using the Search Form.

ID	Query Name	Reference	Last Executed By	Last Executed Date	Created Date	Modified Date
SQL 129	FEES on SATURN		AJEBUSINESS\adrian	01/11/2016 10:41:07	01/11/2016 10:37:24	01/11/2016 10:40:57
SQL 22	FEES on SATURN	FQ1	AJEBUSINESS\adrian	03/08/2017 23:26:31	30/07/2014 13:17:01	12/11/2017 19:22:02
SQL 59	FEES on SATURN Default Report		AJEBUSINESS\adrian	01/03/2017 11:30:59	24/02/2015 20:02:49	30/06/2015 11:43:48
SQL 100	FEES on SATURN Enc Query		-	-	07/06/2016 18:39:39	07/06/2016 18:39:58
SQL 71	FEES on SATURN Local		AJEBUSINESS\adrian	22/02/2017 17:28:09	08/07/2015 13:04:56	21/02/2017 13:13:14
SQL 34	FEES TEST		AJEBUSINESS\adrian	26/02/2015 19:21:53	25/11/2014 19:02:33	10/01/2015 18:20:22
SQL 55	FEES TEST!!!		-	-	29/01/2015 11:40:46	29/01/2015 11:41:31
SQL 123	FEES XML File		-	-	05/10/2016 16:02:18	13/02/2017 15:00:57
SQL 1	FEES1		AJEBUSINESS\adrian	03/02/2015 12:09:35	25/02/2014 20:52:01	26/01/2015 21:33:57
SQL 9	FIDELITY		-	-	05/03/2014 16:55:43	-
SQL 67	File CSV		AJEBUSINESS\adrian	12/06/2015 19:37:26	12/06/2015 17:23:04	09/02/2017 12:44:10
SQL 32	Firebird SQL Test		Adrian	19/05/2015 09:23:42	22/10/2014 15:19:28	13/02/2015 15:19:02
SQL 108	Focus PCR 16374		AJEBUSINESS\adrian	21/02/2017 12:18:35	21/08/2016 17:09:25	05/12/2016 16:47:33
SQL 85	Focus Test Data Store XML		AJEBUSINESS\adrian	19/03/2016 19:15:43	08/01/2016 17:05:52	22/09/2016 17:27:34
SQL 171	Free-press-release-sites		-	-	07/03/2017 10:08:57	-
SQL 80	FTP FEES ON SATURN		AJEBUSINESS\adrian	23/08/2016 12:10:41	20/08/2015 14:47:25	-
SQL 82	FTP FEES ON SATURN CSV		AJEBUSINESS\adrian	29/12/2015 17:48:04	04/09/2015 13:04:13	18/01/2017 19:55:42
SQL 13	FUND		-	-	07/03/2014 14:27:44	07/03/2014 18:47:40
SQL 160	Fund Report		AJEBUSINESS\adrian	09/02/2017 10:04:52	08/02/2017 16:39:47	08/02/2017 16:41:07
SQL 161	Fund Report DRS		AJEBUSINESS\adrian	28/02/2017 21:04:00	09/02/2017 12:40:29	13/02/2017 17:36:09
SQL 7	FUNDS		-	-	05/03/2014 15:26:20	-
SQL 5	FUNDS		-	-	03/03/2014 16:28:15	14/09/2014 14:40:46
SQL 12	FUNDS ADRIAN EVANS		-	-	06/03/2014 18:09:10	04/12/2014 14:57:14
SQL 154	Gaming URLs		-	-	07/02/2017 19:15:13	07/02/2017 19:17:03
SQL 128	Geo Report		AJEBUSINESS\adrian	08/11/2016 10:20:37	01/11/2016 10:20:53	11/02/2017 18:07:28
SQL 111	Geo Weather		-	-	02/09/2016 15:03:46	13/09/2016 19:38:28
SQL 115	Google Api		AJEBUSINESS\adrian	07/09/2016 18:55:56	07/09/2016 12:19:26	07/10/2016 19:18:58
SQL 182	Google Query Indigo DQM		AJEBUSINESS\adrian	11/07/2017 11:52:17	12/06/2017 20:02:07	07/07/2017 16:28:15
SQL 137	Google Test		-	-	04/01/2017 13:16:18	12/06/2017 20:15:10
SQL 184	Google Web Scrape Links		AJEBUSINESS\adrian	11/07/2017 14:28:23	21/06/2017 11:30:08	07/07/2017 17:28:13
SQL 189	html Reader		AJEBUSINESS\adrian	18/10/2017 12:07:42	18/10/2017 12:05:43	-

Enter the parameters to Search and click the Search button.



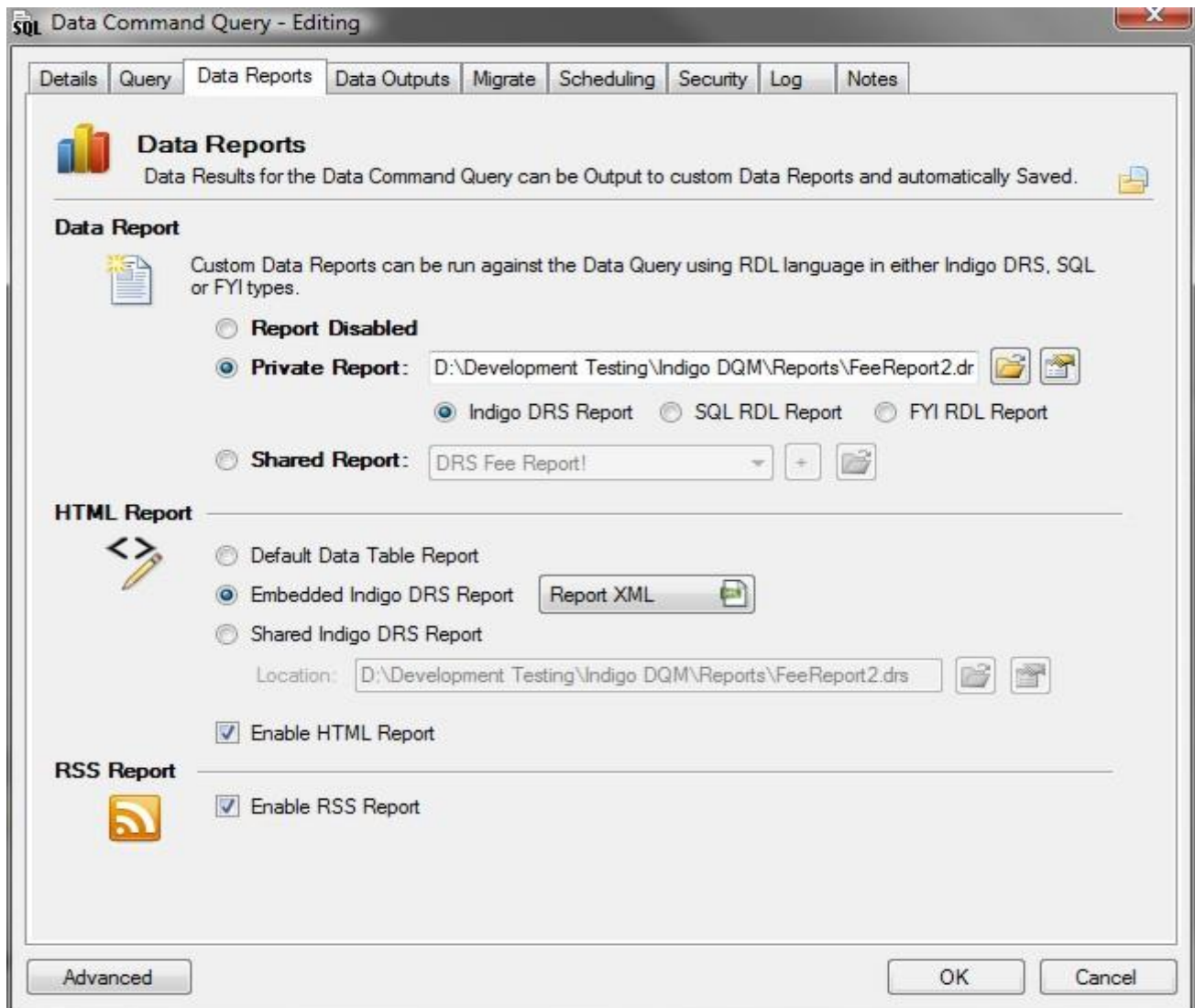
## Creating Data Reports for the Data Command Queries and Execution Plans

Multiple Data Reporting options are available for Data Commands and Execution Plans.

Select the Data Report Tab for the Data Command Query or Execution Plan. Specify the Data Report Type as an Indigo DRS Report, FYI RDL Report or a MS SQL RDL Report.

If the Report is a shared Report check the Radio Button and then select the Report from the dropdown.

Indigo DRS Reports give the best functionality and compatibility. Because Indigo DRS uses HTML for reporting the reports can be displayed on any type of device and in any type of browser.



Data outputs can be saved in HTML, PDF, RSS, XML and CSV formats for viewing and uploading to Web Servers for Internet / Intranet reporting content.

### Embedded Indigo DRS HTML Reports

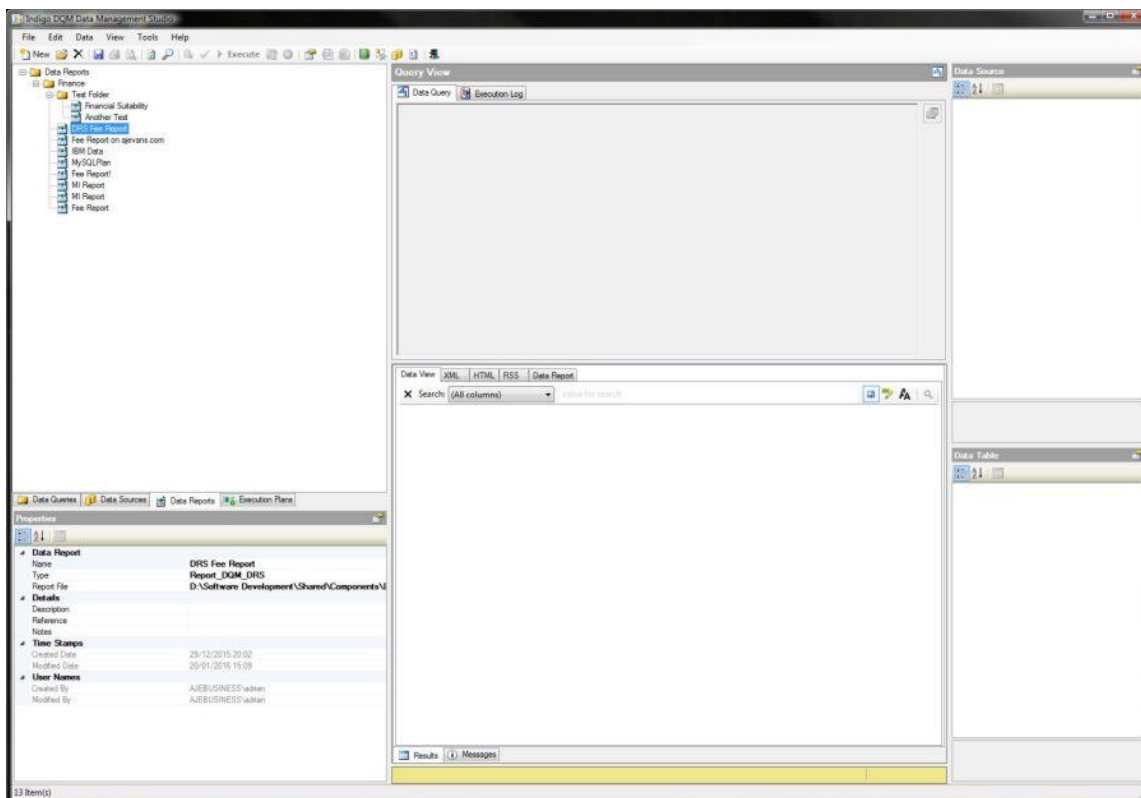
Embedded Reports use the Indigo DRS Data Reporting and Document Generation System and are stored with the Data Command or Execution Plan and allow Reports to be automatically output to a file.

Check the 'Enable HTML Report' option and select either the Default report which is basically just a Data Table or the Indigo DRS Report which is the advanced Report generated with the Indigo DRS Report Designer.

### Shared Data Reports

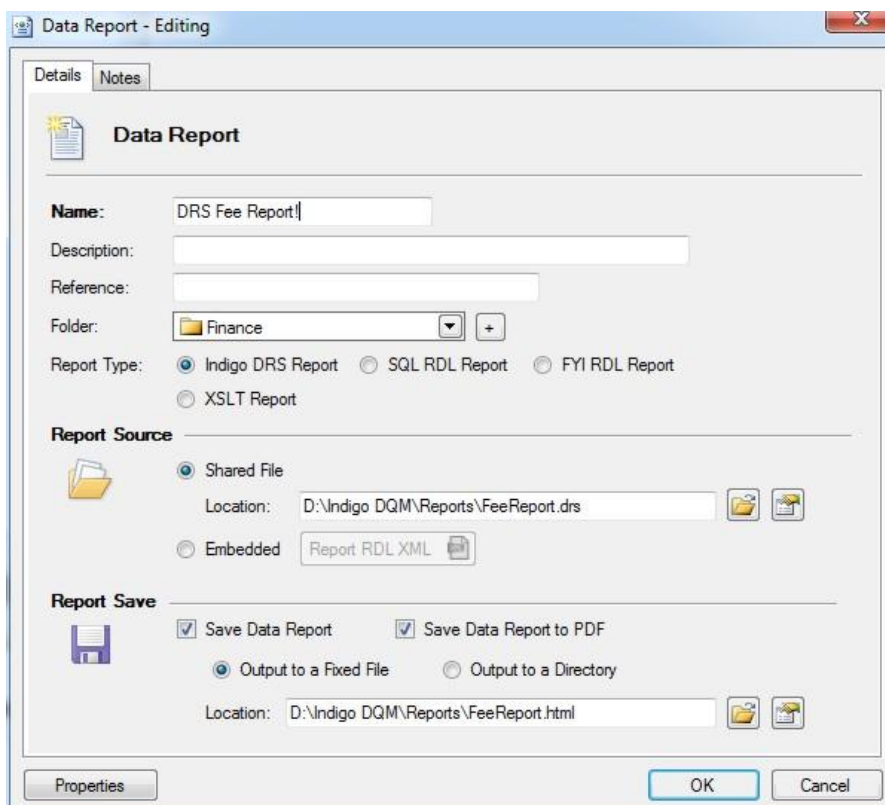
Shared Data Reports are Indigo DRS Reports and can be used with multiple Data Command Queries and / or Execution Plans.

If an Indigo DRS Report is common to several objects use the shared option to the Report File. The Report File can be local, on a Network share or on the Internet. Open the properties page for the Report location to specify the URI for the File.



## Creating a new Data Report

Enter a Name and Description for the Data Report and the location to the Report File.



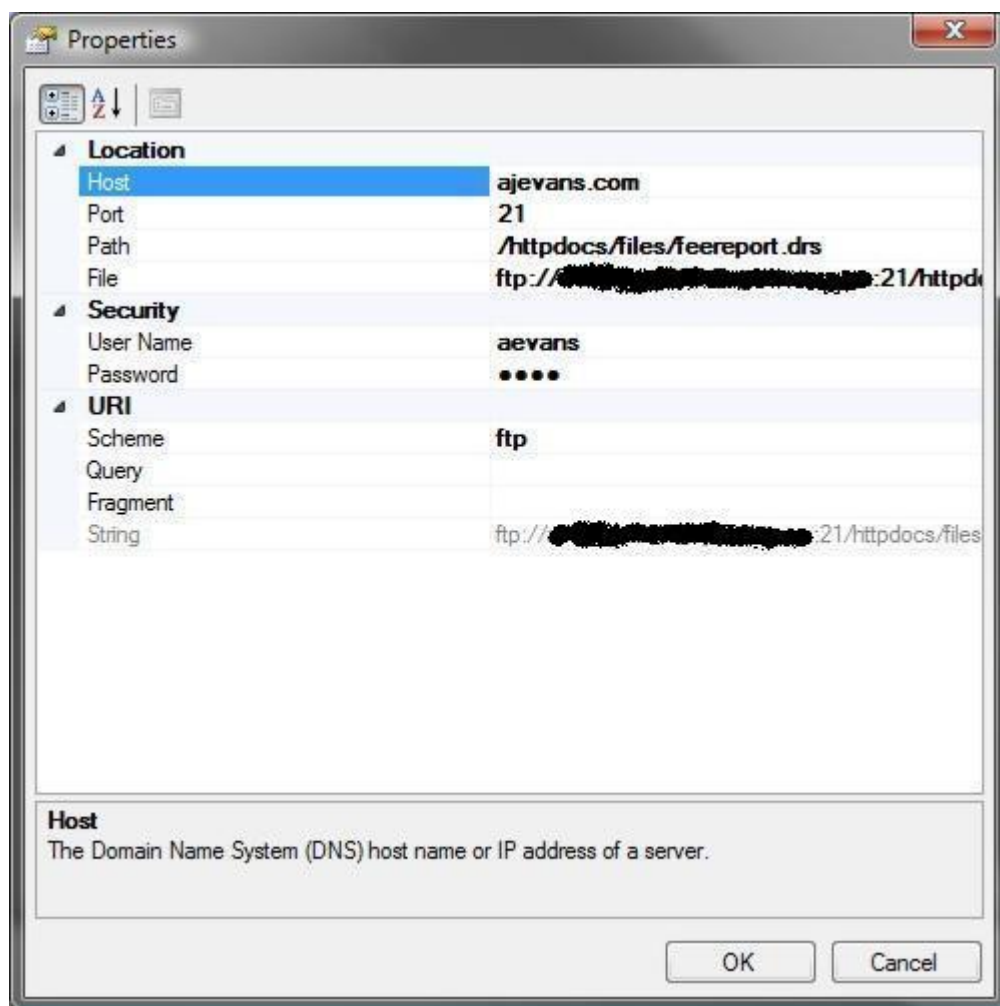
Specify the Report Type as either an Indigo DRS Report, XSLT, FYI RDL Report or a MS SQL RDL Report and select the Report Source as a Shared Report File or as an Embedded Resource.

By default the Indigo DRS report type is selected as this gives the best functionality and compatibility. Indigo Scape DRS is an advanced Data Reporting and Document Generation System using HTML, XML and XQuery to generate highly compatible and content rich business reports and documents with standard HTML.

The HTML reports generated by Indigo DRS give the best functionality and compatibility and because they use standard HTML for reporting the documents can be displayed on any type of device whether a PC, tablet, mobile and in any type of browser.

### Shared Report Source

Specify the URI for the Report Location using the Properties Button or browse to a Report File.



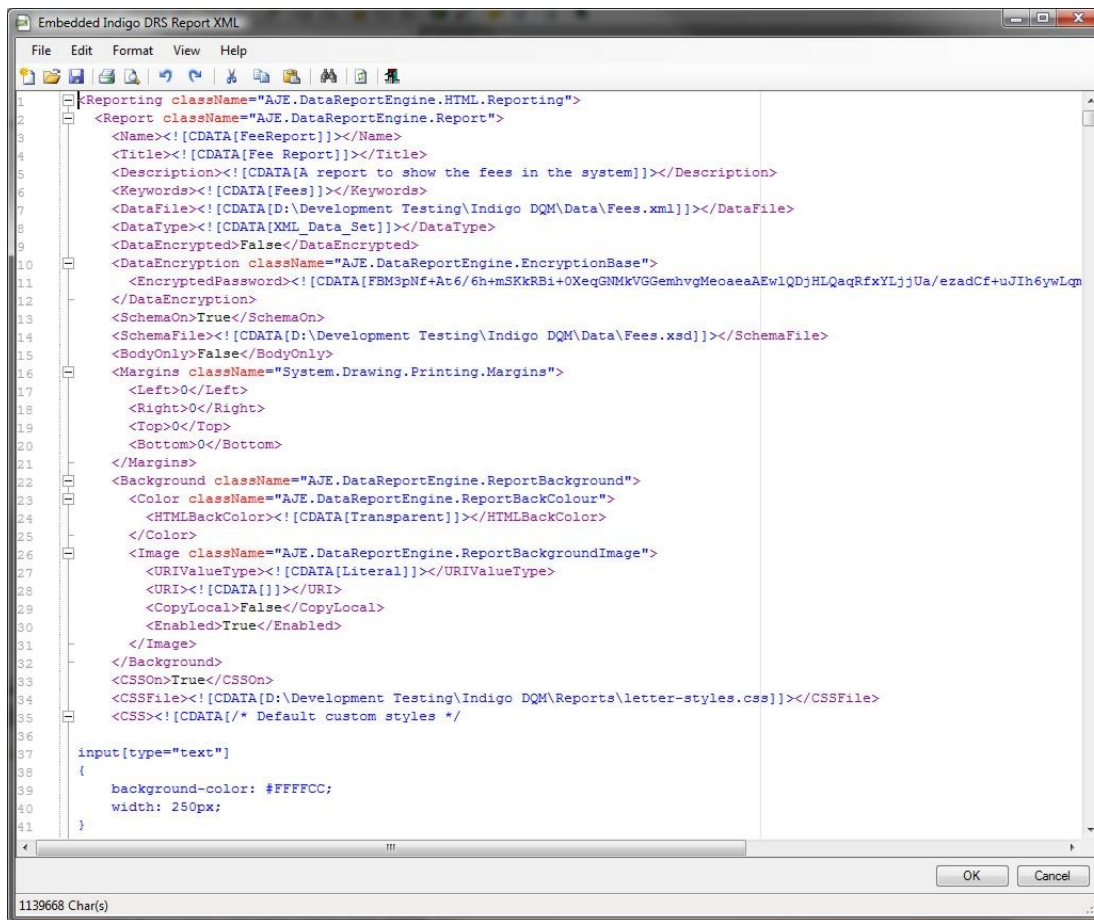
Enter the Host, Port, Path and the Security Credentials for the Data Report.

## Embedded Indigo DRS Report RDL (Report Description Language) XML

To Enable Embedded reports select the Radio Button and click the Embedded button to Load the Report structure.

This feature is only available with Indigo DRS Reports and XSLT Reports.

Load the Indigo DRS RDL XML or XSLT Report Structure File.



Click OK to Save the RDL XML and Embed into the Data Report.

## XSLT (Extensible Stylesheet Language Transformations) Reports

Indigo DQM features XSLT (Extensible Stylesheet Language Transformations) which is a language for transforming XML documents into other XML documents or other formats such as HTML for web pages or plain text.

Select the XSLT Radio button for the Report Type and either an Embedded Resource or a Shared XSLT File for the Report Source.

### Report Save Output URI for the Result Data

Data Report Outputs can be saved to a local drive, network share or uploaded to the Internet / Cloud by configuring the Location of the Data Report Output URI.

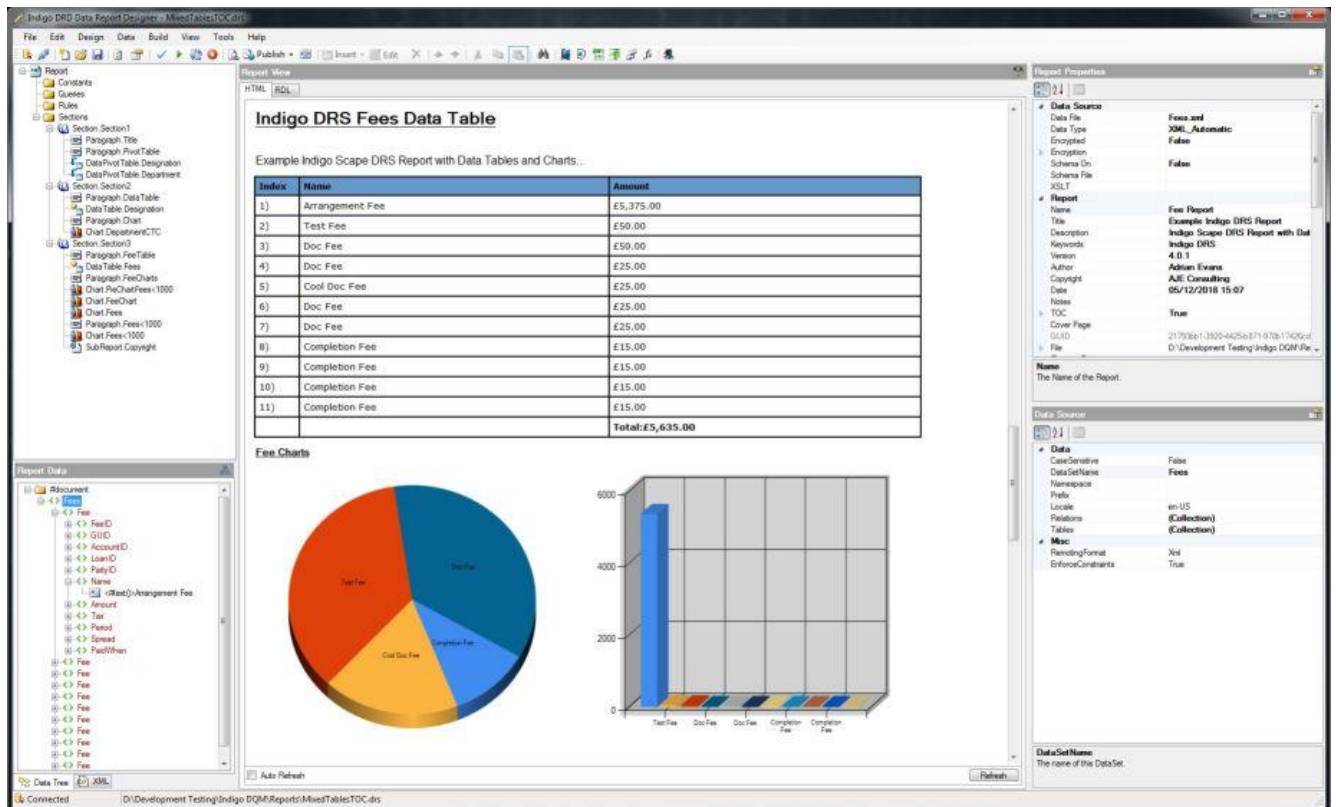
This feature is only available with Indigo DRS Reports and XSLT Reports.

## Using the Indigo DRS Report Designer

Indigo DQM Data Management system uses the Indigo DRS Data Reporting and Document Generation System to create advanced reports and documents for the Data Queries and Execution Plans in the Data Asset Store(s).

The optional Indigo DRD Report Designer Tool, not included with Indigo DQM, uses Indigo DRS RDL (Report Description Language) with advanced reporting capabilities complex Data can be presented in a visual and meaningful format.

The report designer can quickly create advanced reports rich in content. Tables and Charts can be added to the report effortlessly allowing complex data to be presented with the minimum of effort.



To design a report using Indigo DRS output the Result Data XML to File and then open and create a new Report with the Indigo DRD Report Designer and load the Result Data XML from File.

Create your Report and then Save the Report XML. Open the Report XML into the Data Command, Execution Plan or shared Data Report by clicking the Report XML Button or pointing to the Saved Report Indigo DRS RDL File.



## Data Table Designer

Report Tables can easily be added to the report by using the Table Designer. Click the Designer button to open the Data Table Designer.

Section	Property	Value
Data Group	Group By Header	
	Header Content	False
	Data Table	
	Data Chart	
	Footer Content	False
Page Break	Page Break	False
	Report Chart	
	Chart Position	Below_Table
Report Condition	Rule Name	
	Rule	
	Rule Type	XQuery
Report CSS	Style Class	
	Report Data	
Report Data	Namespace	
	Report Item	
Report Item	Editor	Fees
	Build Option	HTML, PDF
	Name	Fees
	Comments	
	Enabled	True
	GUID	9bdf3cc5-f573-471-a042-e17096ea0910
Report Style	Horizontal Ruler	
	Horizontal Align	Not Set
Report Table	Page Break	False
	TOC	
	Size	
	Cell Padding	5
	Cell Spacing	0
	Background	
	Border	

**Name**  
The Name of the Report Item.

Open Save OK Cancel

Select the Data Columns to include in the Report.

**Data Table Designer**

File Data View Tools Help

Schema Data

**Data Table and Schema**

Select the Table and the Data Columns to include by checking them. Data can also be grouped by using the arrow buttons.

Data Table: Fee

Data Group By:

Data Column

- ☒ Index
- ☒ Name
- ☒ Amount
- ☒ Total

4 Item(s)

Add Remove Up Down

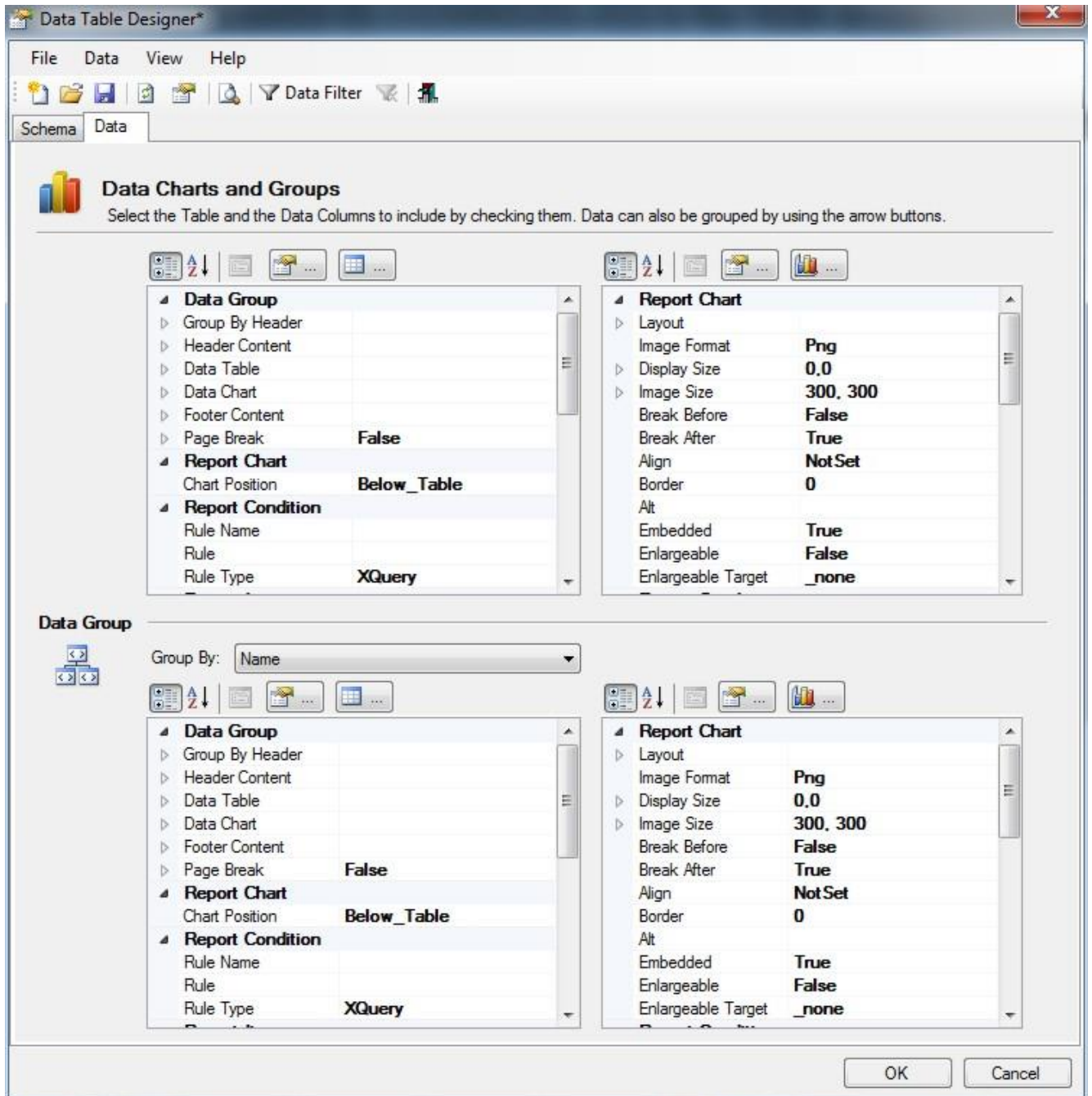
☒ Show Over All Total Row

**Column Properties**

Report Column	
Enabled	True
Name	Index
Styling	True
Style Name	
Data Format	
Formatting	True
Indexing	True
Image Position	Right
Images	(Collection)
Output Style	Text
Hyperlink	False

OK Cancel

Select the style, formatting, charting and group by options for Data Table.



## Report Charting and Graphs

A graph or chart is a diagrammatic illustration of a set of data. Data can be easily presented in a visual and meaningful format using the Indigo DQM Chart Designer.

The report designer can add content rich charts and graphs to the report in a matter of seconds.

**Edit Chart Properties**

Designer... Preview

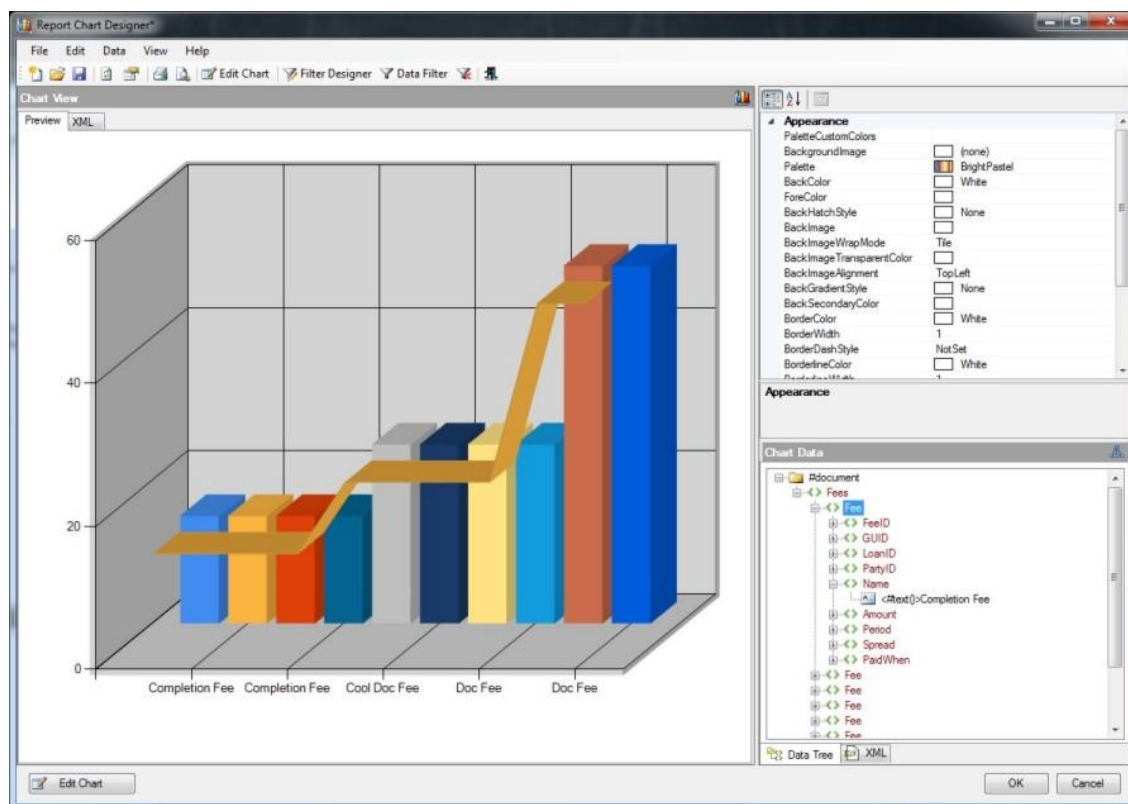
<b>Report Chart</b>	
Page Break	False
TOC	
Layout	
Image Format	Png
Image Quality	50
Display Size	0,0
Image Size	600, 600
Break Before	False
Break After	True
Align	Not Set
Border	0
Alt	
Embedded	True
Enlargeable	False
Enlargeable Target	_none
<b>Report Condition</b>	
Rule Name	
Rule	
Rule Type	XQuery
<b>Report Data</b>	
Namespace	
Context	
XSLT	
Data Table	Fee
Data Binding	Data_Source
<b>Report Filtering</b>	
Data Filter	Amount < 1000
Row Rule	
Distinct Values	True
Distinct Columns	Name
Distinct Function	None
<b>Report Item</b>	
Build Option	HTML, PDF
Editor	PieChartFees<1000
Name	PieChartFees<1000
Comments	
Enabled	True
GUID	b632caac-2d8e-4d86-8cc7-bfc9de620db5
<b>Report Style</b>	
Horizontal Ruler	

**Name**  
The Name of the Report Item.

Open Save OK Cancel

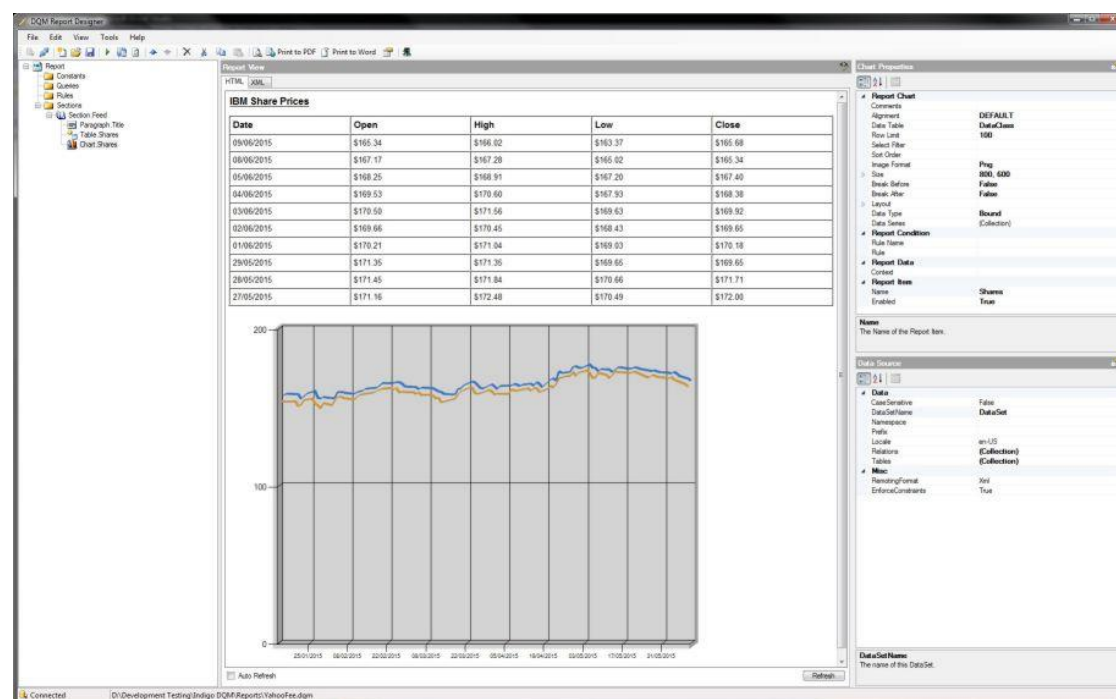
## Report Chart Designer

The Chart designer allows the Chart Areas, Legends and Series to be defined using the Property Pages. The Chart should be bound to the report data source and the available Columns from the Data Table should be selectable.



## Inserting a Line Chart into the Report

The following report shows the share prices for IBM and took less than five minutes to create.



Various options are included to allow the appearance and style of the HTML report to be customised.



Report Charts can also contain Report Conditional Rules to determine if the Chart is displayed or not. Report Rules are XQuery expressions that return True or False and determine if Content is enabled. By Default if empty the Rule will always be true.

Indigo DRS advanced reporting and document generation platform gives the best functionality and compatibility with advanced reporting features and effortless integration of this technology into your projects you can be assured of having the best reporting capabilities.

## Data Outputs

Indigo DQM Data Management Engine can output and automatically save Data and Reports in various formats including HTML, PDF, RSS, XML, JSon and CSV.

This content can be saved locally, to a network location or uploaded to Web Servers on Internet or Intranet allowing the automatic distribution of Data and Reports.

**Data Command Query - Editing**

Details Query XQuery Scripting Data Reports **Data Outputs** Migrate Scheduling Security Log Notes

**Data Outputs**  
Data Results for the Data Command Query can be Output to XML, HTML and RSS.

**Data Report**

☒ Save HTML Report ☒ Save HTML Report to PDF

☒ Output to a Fixed File ☐ Output to a Directory

Location: ftp://[redacted]@indigodqm.com/httpdocs/files/examples/repo

**RSS Feed**

☒ Save RSS Feed ☐ Save RSS Feed with Default XSL Transform

☒ Output to a Fixed File ☐ Output to a Directory

Location: E:\Data\Indigo DQM\fees\_feed.rss

**Data Results**

☒ Save XML Result Data ☒ Save Result Schema XSD

☒ Output Result Data to a Fixed File ☐ Output Result Data to a Directory

Location: E:\Data\Fees.xml

☒ Save JSon Result Data

☒ Output Result Data to a Fixed File ☐ Output Result Data to a Directory

Location: ftp://[redacted]@indigodqm.com/httpdocs/files/examples/repo

☒ Enable Header on CSV Result Data

☒ Save CSV Result Data

☒ Output Result Data to a Fixed File ☐ Output Result Data to a Directory

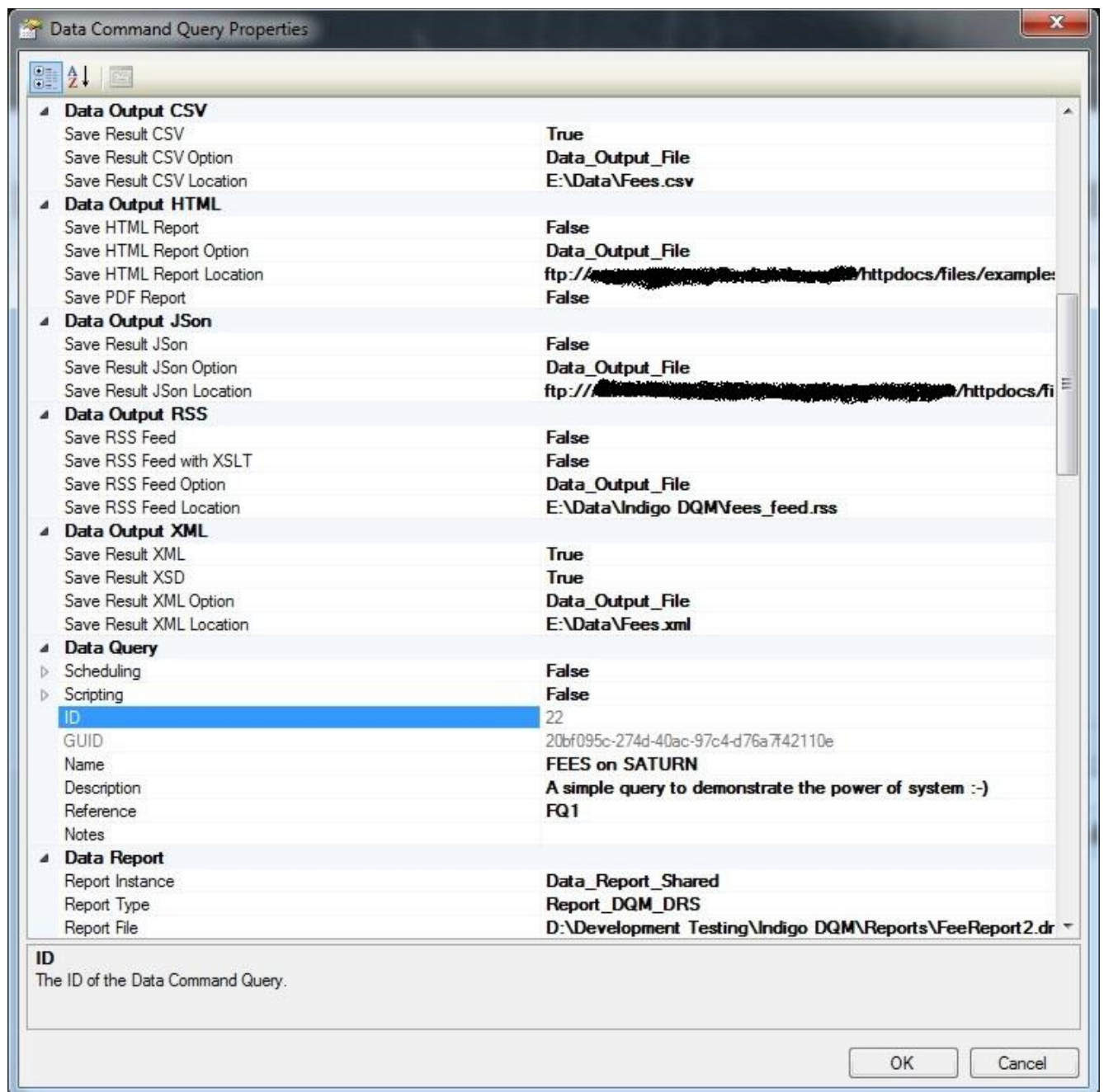
Location: E:\Data\Fees.csv

Advanced OK Cancel

Data outputs can be saved for viewing and uploading to Web Servers for Internet / Intranet reporting content.

## Advanced Data Command Properties

To see additional advanced properties for the Data Command Query click the Properties button.



## Data Migration

Results of the Data Command can also be migrated to another Data Source and Type.

**Data Command Query - Editing**

Details Query Data Reports Data Outputs **Migrate** Log Notes

**Migrate Result Data**  
Data Results can be Migrated to another Data Source.

☒ Migrate Results of the Data Command Query to another Data Source  
☒ Display Warning before attempting Data Migration  
☒ Log Migration in Data Execution Log

**Data Destination**

☐ Private Source:

☒ Encrypt Connection String

☒ Shared Source:

**Data Mapping**

Select or Enter the Data Table Name to map and translate the Result Data to.

Table Name:

Data Table must exist and have Read / Write permissions at the Data Destination.

OK Cancel

Specify the parameters of the Destination Data Source to migrate the Data.

## Data Command Logging

Indigo DQM System includes an audit trail allowing a Log to be kept of all executed Data Command Queries. The Log keeps detailed information about what queries have been run, by whom and when.

Additionally Snapshots of the Data can be taken at the time of execution allowing a Data state record to be kept over time for analysis and comparison.

**Data Command Query - Editing**

Details Query XQuery Scripting Data Reports Data Outputs Migrate Scheduling Security Log Notes

**Data Execution Log**  
Data Execution Logs record Executed Data Command Queries in the Data Store.

**Data Query Name:** FEES on SATURN  
Executed Count: 245 Clear Executed Count Clear Execution Log

Executed By	Server Name	Database	Local Computer	Local IP Address	Date Stamp
AJEBUSINE...	SATURN	AJE.CreditEngine	EUROPA	192.168.111.10	19/08/2016 16:...
AJEBUSINE...	SATURN	AJE.CreditEngine	EUROPA	192.168.111.10	18/08/2016 10:...
AJEBUSINE...	SATURN	AJE.CreditEngine	EUROPA	192.168.111.10	18/08/2016 10:...
AJEBUSINE...	SATURN	AJE.CreditEngine	EUROPA	192.168.111.10	18/08/2016 10:...
AJEBUSINE...	SATURN	AJE.CreditEngine	EUROPA	192.168.111.10	17/08/2016 09:...
AJEBUSINE...	SATURN	AJE.CreditEngine	EUROPA	192.168.111.10	17/08/2016 09:...
AJEBUSINE...	SATURN	AJE.CreditEngine	EUROPA	192.168.111.10	17/08/2016 09:...
AJEBUSINE...	SATURN	AJE.CreditEngine	EUROPA	192.168.111.10	16/08/2016 15:...
AJEBUSINE...	SATURN	AJE.CreditEngine	EUROPA	192.168.111.10	16/08/2016 15:...
AJEBUSINE...	SATURN	AJE.CreditEngine	EUROPA	192.168.111.10	16/08/2016 15:...
AJEBUSINE...	SATURN	AJE.CreditEngine	EUROPA	192.168.111.10	16/08/2016 15:...
AJEBUSINE...	SATURN	AJE.CreditEngine	EUROPA	192.168.111.10	16/08/2016 15:...

37 Item(s)

**Data Log Options**

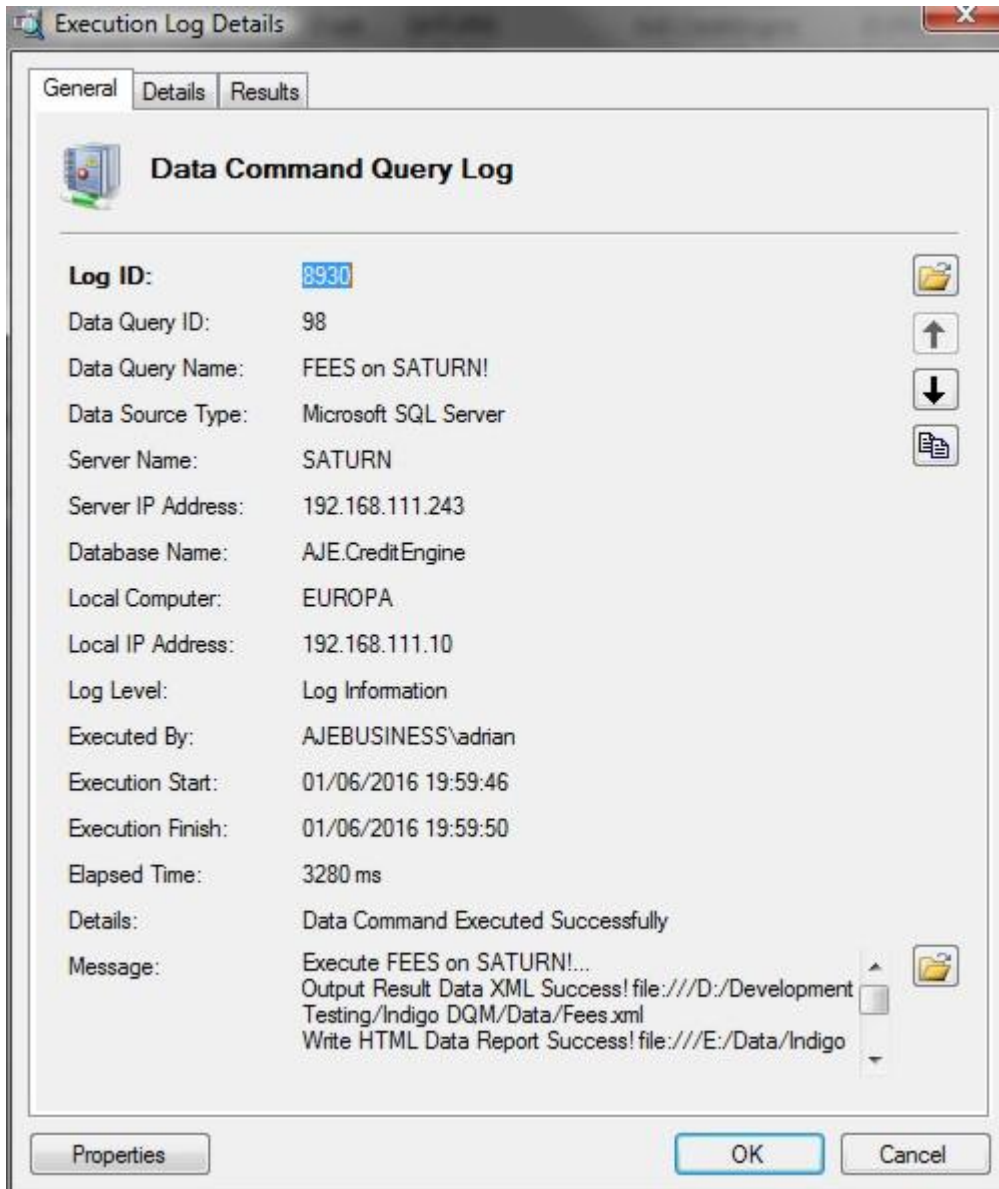
- ☒ Enable Data Command Query Log
- ☒ Enable Data Command and Result Data Snapshot
- Warning: Use Snapshots with caution as they use a lot of Storage and increase Execution time.

Advanced OK Cancel

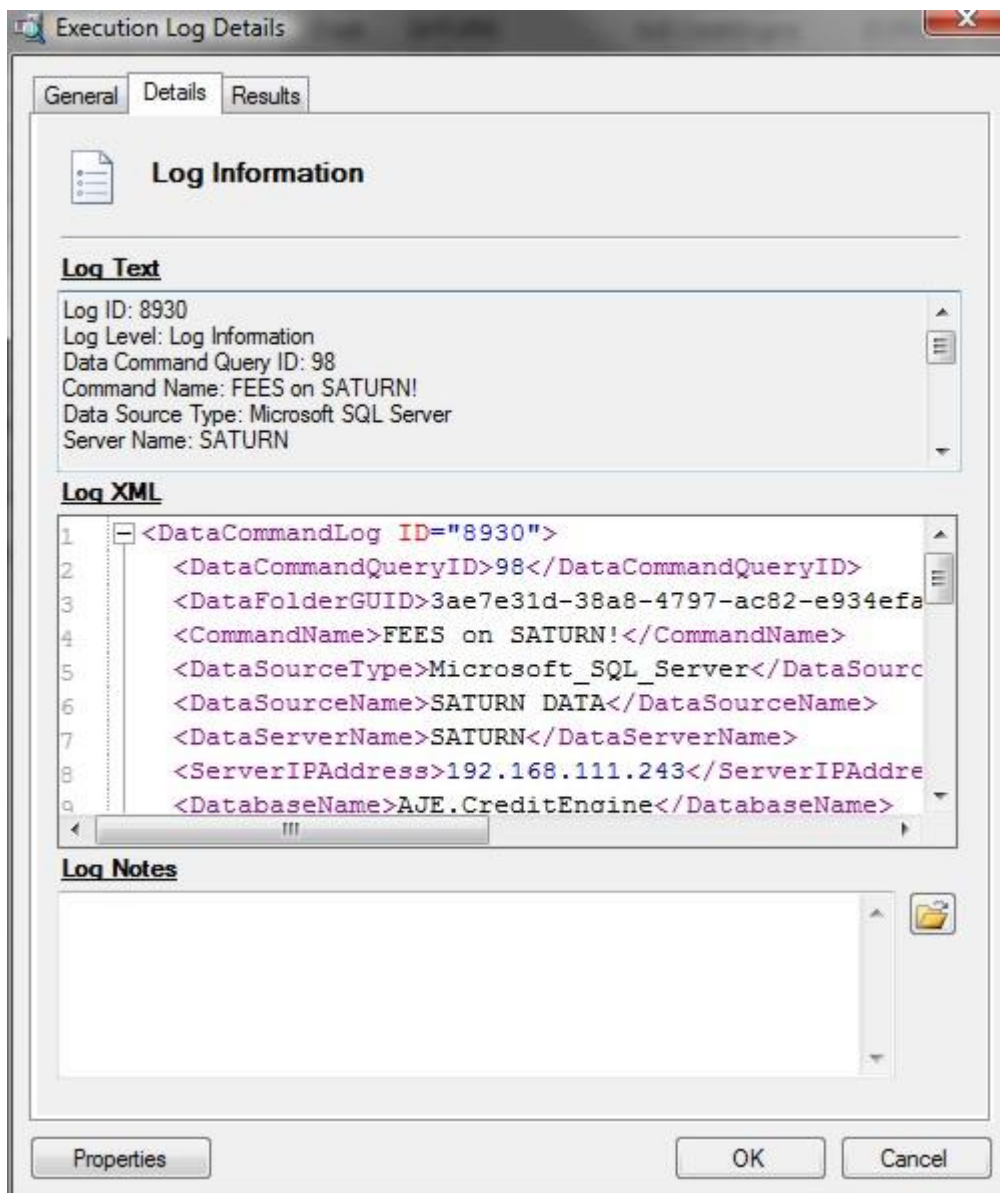
A complete log of all Executed Data Commands can be kept along with Data Snapshots.



The Log keeps a complete record of all execution parameters.

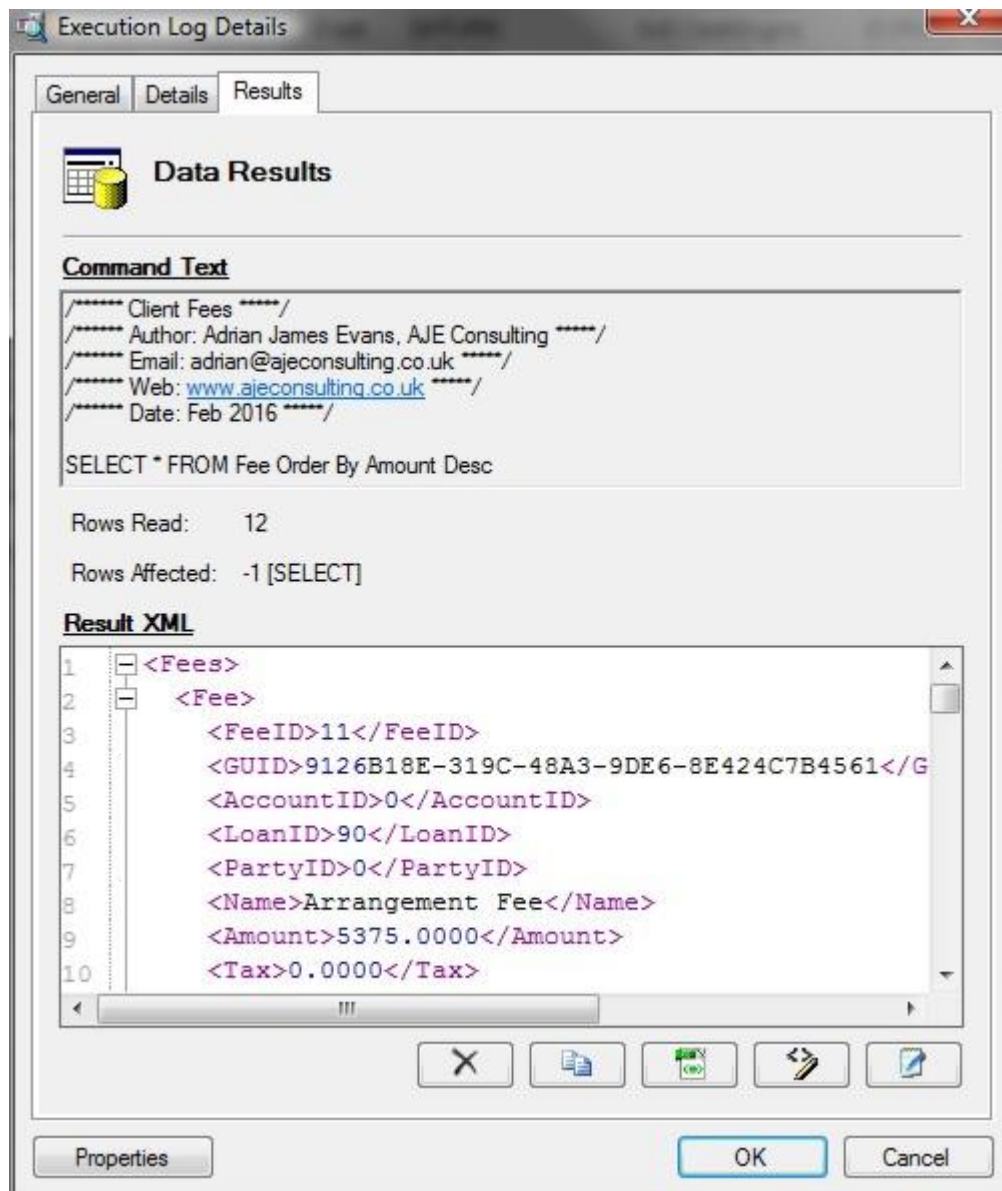






## Data Results

If Snapshots are enabled for the Data Command the exact Command Text that was Executed at the time is captured along with the Result XML.



If Snapshots are enabled for the Data Command the exact Command Text that was executed at the time is captured along with the Result XML.

## Data Execution Plans

Execution Plans can run multiple Data Command Queries against multiple Data Sources and Types in one operation. This powerful feature allows Data from different locations to be brought together into one result with the result outputs being available for snapshots, saving, migration and reporting.

### Creating a new Data Execution Plan

Enter a Name for the Data Execution Plan and select a Folder location.

**Data Execution Plan - New**

Details | Results | XQuery | Scripting | Data Reports | Data Outputs | Scheduling | Security | Log | Notes

**Data Execution Plan Details**  
Data Execution Plans can Execute multiple Data Command Queries against multiple Data Sources and Types.

Name:  Folder: Indigo Execution Plans +

Description:

Reference:

Data Name:

☐ Add Execution Data to Result Output

**Data Command Queries**  
Select the Data Command Queries to Add to the Execution Plan by using the Add and Remove buttons. Control the Execution Order by using the Up and Down arrows. Queries will be Run in the order specified by the list.

☐ Data Queries

- ☐ Json Data
- ☐ Logs
- ☐ Test Data
- ☐ XSLT
- ☐ Data Store
- ☐ XML Data
- ☐ World Markets
- ☐ XLS Data
- ☐ Test API
- ☐ Contacts
- ☐ Data Raw
- ☐ Data Files
- ☐ Report Examples
- ☐ Web Services

Query Name	Enabled	Include Data ...
------------	---------	------------------

Selected 0 Item(s)

Advanced OK Cancel

Select the Data Command Queries to run in the execution plan and select the order in which you want them to Execute. You can also choose to include or not include the result as part of the Execution Plan.

Select the Data Commands to Execute in the Plan by using the Add and Remove buttons. Control the Execution Order by using the Up and Down arrows.

**Data Execution Plan - Editing**

Details Results XQuery Scripting Data Reports Data Outputs Scheduling Security Log Notes

**Data Execution Plan Details**  
Data Execution Plans can Execute multiple Data Command Queries against multiple Data Sources and Types.

Name: Fee Plan Folder: Indigo Execution Plans +

Description: Fee Execution Plan

Reference: MySQL

Data Name: AJE

☒ Add Execution Data to Result Output

**Data Command Queries**  
Select the Data Command Queries to Add to the Execution Plan by using the Add and Remove buttons. Control the Execution Order by using the Up and Down arrows. Queries will be Run in the order specified by the list.

Query Name	Enabled	Include Data ...
SQL FEES on SATURN	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
SQL UserInfo	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
SQL MySQL Countries	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
SQL CSV FEE	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Selected 4 Item(s)

Advanced OK Cancel

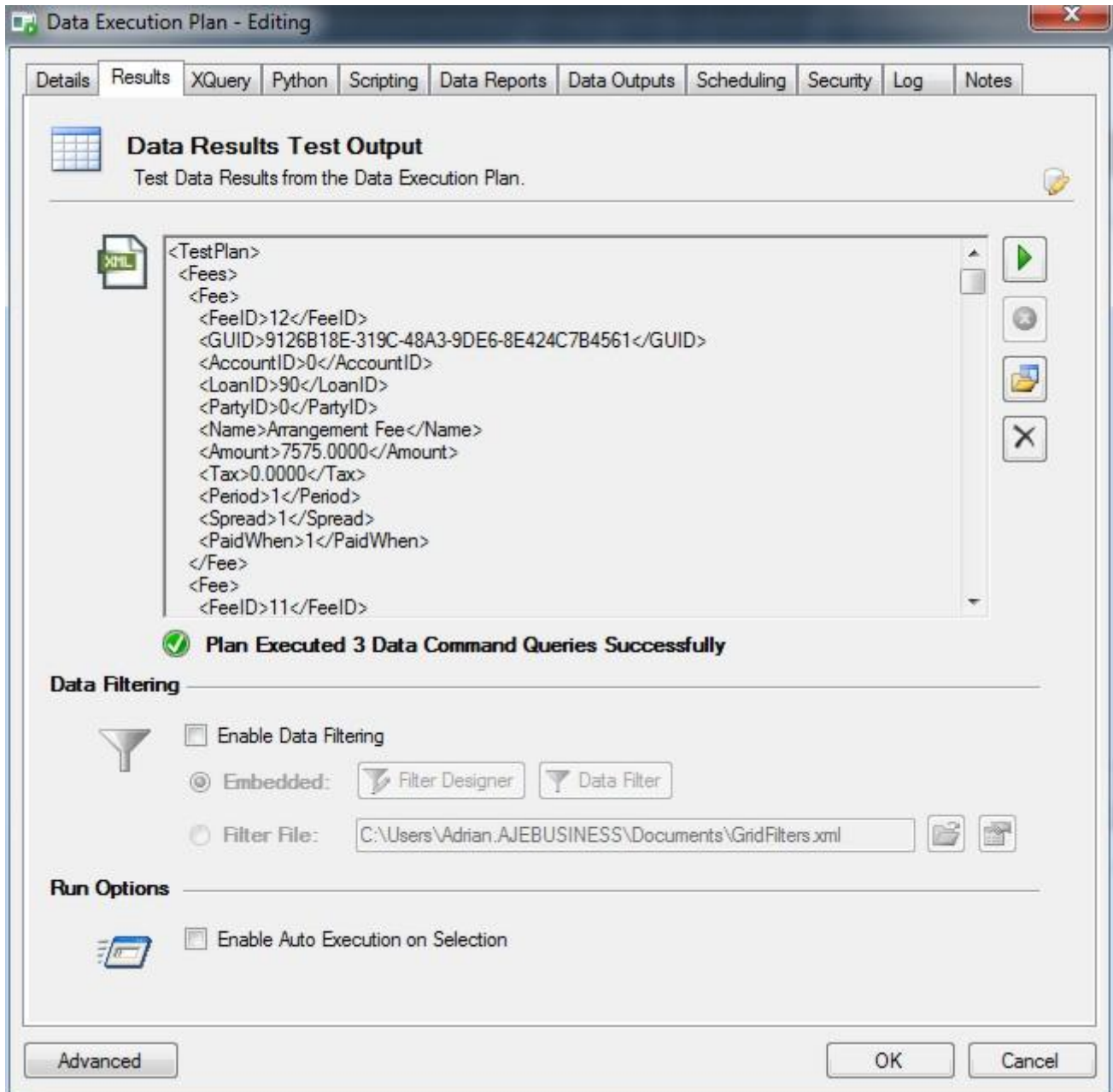
### Add Execution Data

Execution Data can be added to the Result XML which can be used for reporting information. Check the option and Execution parameters will be included in the XML Data such Execution Time, Username etc.

### Data Consolidation

Data consolidation using Execution Plans allows the collection and integration of data from multiple sources into a single destination. During this process, different data sources are put together, or consolidated, into the Indigo DQM Data Store.

## Testing the Data Output of the Execution Plan



You can also run a custom script or program after the Execution Plan completes if further processing is required.

The script can be VBS script that may do additional processing on the Data result outputs if saved to a file or directory.



## Data Reports for the Execution Plan

Specifying the Report Type for the Data Execution Plan as an Indigo DQM Report, FYI RDL Report or a MS SQL RDL Report.

Indigo DQM reports give the best functionality and compatibility. Because Indigo DQM uses standard HTML for reporting the reports can be displayed on any type of device and in any type of browser.

**Data Execution Plan - Editing**

Details Results **Data Reports** Data Outputs Scheduling Security Log Notes

**Data Reports**  
Data Results for the Execution Plan can be Output to custom Data Reports and automatically Saved.

**Data Report**  
Custom Data Reports can be run against the Execution Plan using RDL language in either Indigo DRS, SQL or FYI types.

☐ Report Disabled

☒ **Private Report:** D:\Development Testing\Indigo DQM\Reports\MySQLPlan2.c  
☒ Indigo DRS Report ☐ SQL RDL Report ☐ FYI RDL Report

☐ **Shared Report:** Fee Report on ajevans.com

**HTML Report**  
☐ Combined HTML Report  
☒ **Embedded Indigo DRS Report** Report XML  
☐ Shared Indigo DRS Report  
Location: D:\Development Testing\Indigo DQM\Reports\FeeReport2.drs

☒ Enable HTML Report

**RSS Report**  
☒ Enable RSS Report

Advanced OK Cancel

Data outputs can be saved in HTML, PDF, RSS, XML and CSV formats for viewing and uploading to Web Servers for Internet / Intranet reporting content.

## Data Outputs for the Execution Plan

Indigo DQM Data Management Engine can output and automatically save Data and Reports in various formats including HTML, PDF, RSS, XML, JSon and CSV.

This content can be saved locally, to a network location or uploaded to Web Servers on Internet or Intranet allowing the automatic distribution of Data and Reports.

**Data Execution Plan - Editing**

Details Results XQuery Scripting Data Reports **Data Outputs** Scheduling Security Log Notes

**Data Outputs**  
Data Results for the Execution Plan can be Output to XML, HTML and RSS.

**Data Report**

☒ Save HTML Report ☒ Save HTML Report to PDF  
☒ Output to a Fixed File ☐ Output to a Directory  
Location: ftp://[redacted]@ajevans.com:21/httpdocs/files/mysqlplan.i

**RSS Feed**

☒ Save RSS Feed ☒ Save RSS Feed with Default XSL Transform  
☒ Output to a Fixed File ☐ Output to a Directory  
Location: \\SATURN\\inetpub\\wwwroot\\ajebusiness.co.uk\\reports\\indigodq

**Data Results**

☒ Save XML Result Data ☒ Save Result Schema XSD  
☒ Output Result Data to a Fixed File ☐ Output Result Data to a Directory  
Location: \\SATURN\\inetpub\\wwwroot\\ajebusiness.co.uk\\reports\\indigodq

☒ Save JSon Result Data  
☒ Output Result Data to a Fixed File ☐ Output Result Data to a Directory  
Location: D:\\Data\\MySQLPlan\_Json.bt

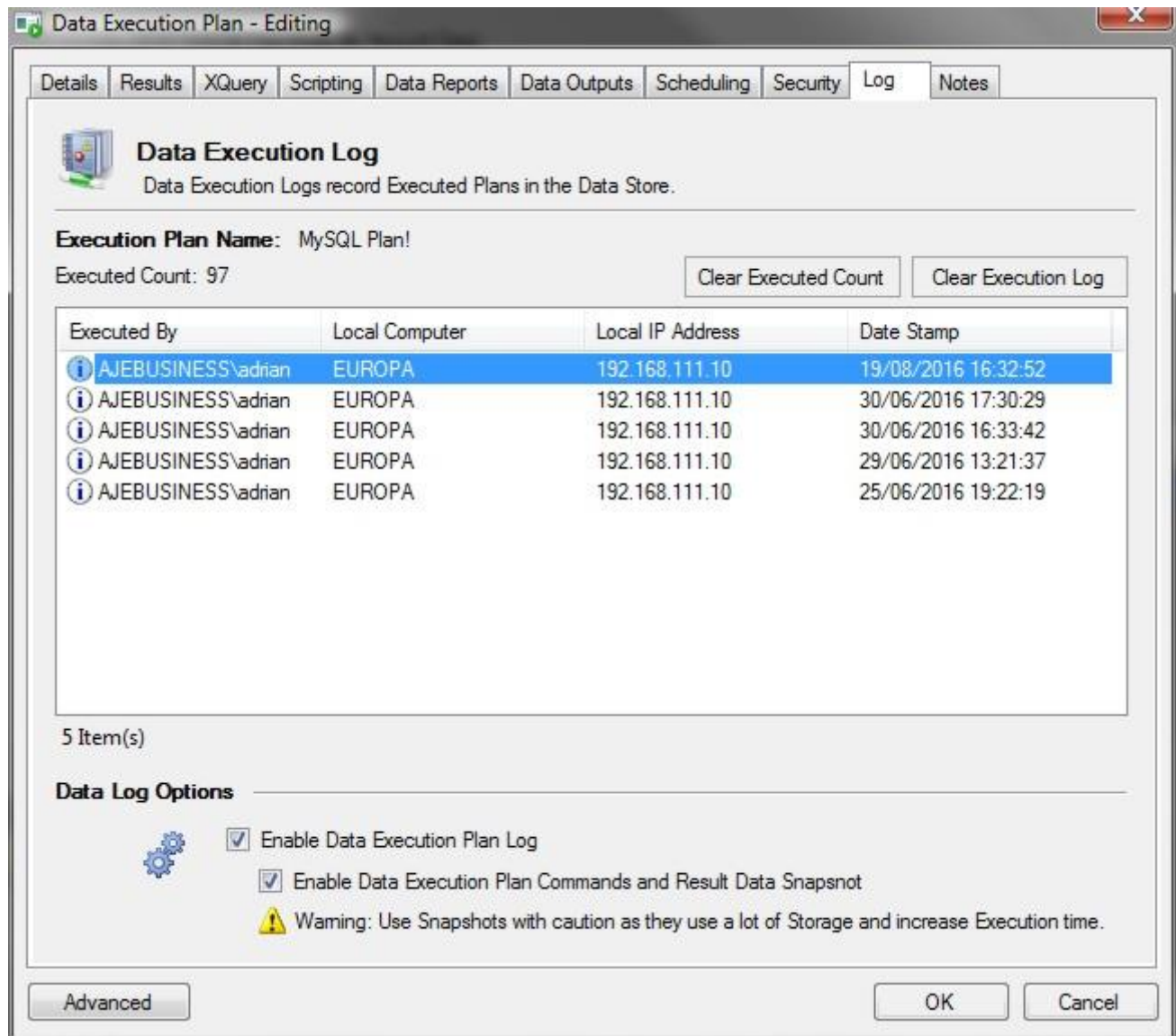
Advanced OK Cancel

Data outputs for viewing and uploading to Web Servers for Internet / Intranet reporting content.

## Data Execution Log

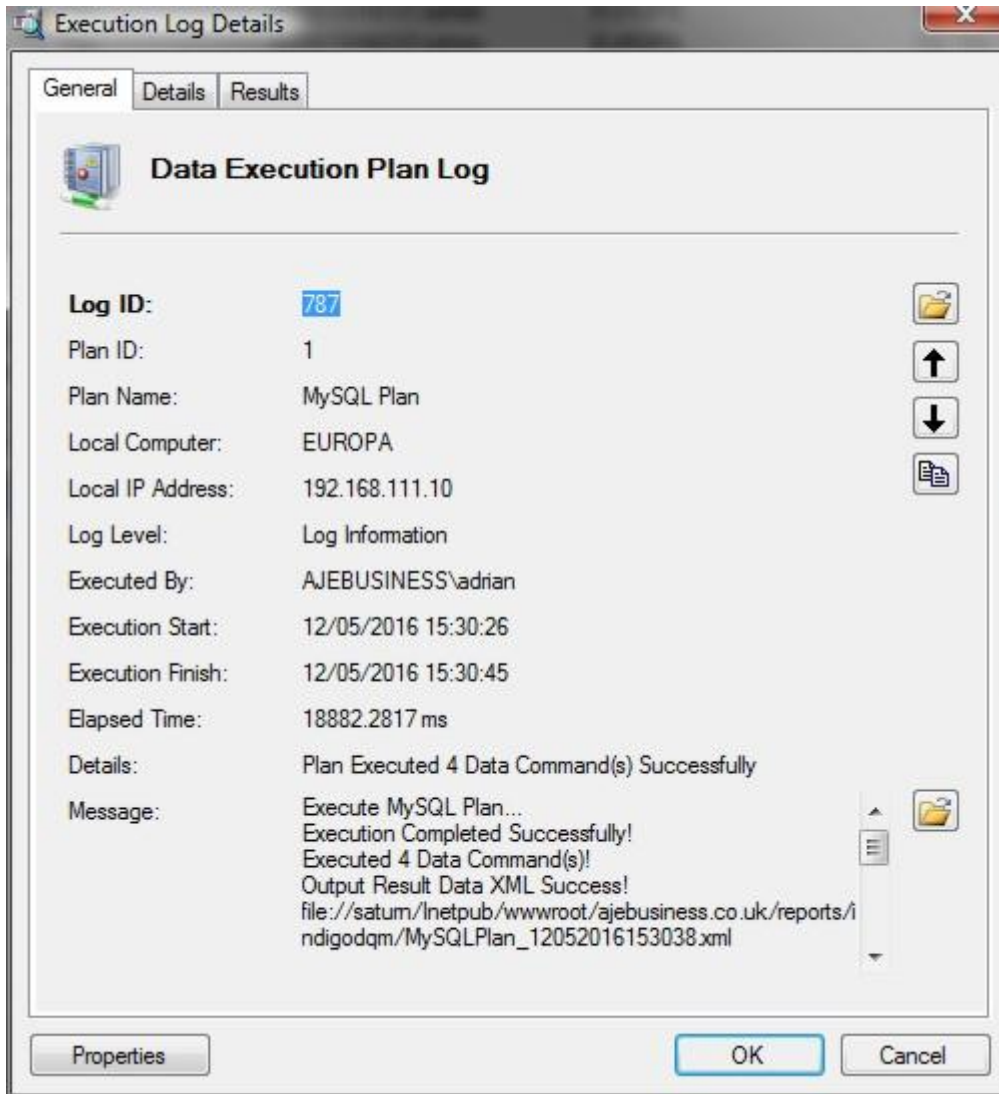
In addition to the Data Command Log Indigo DQM also includes an audit trail for Data Execution Plans. The Log keeps detailed information about what Plans have been run, by whom and when.

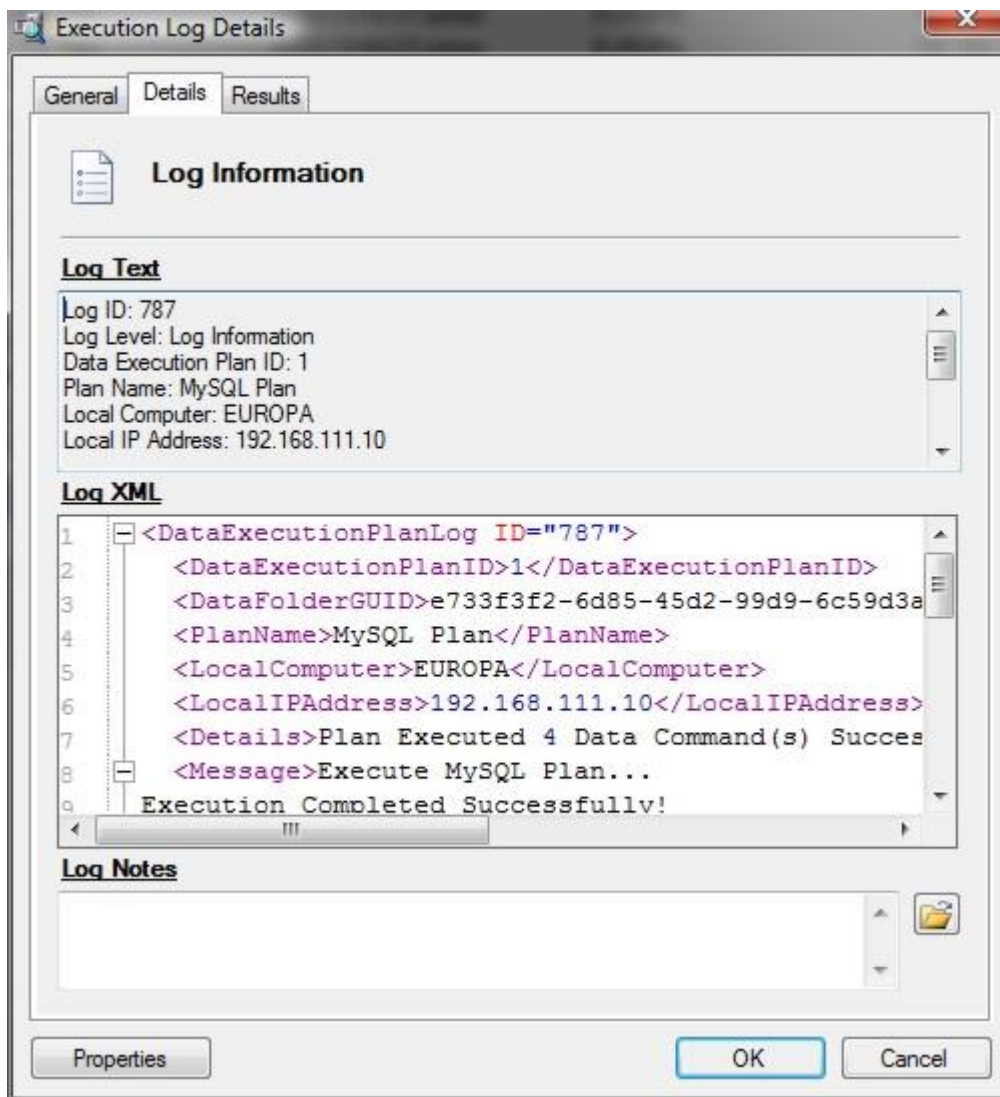
Additionally Snapshots of the Data can be taken at the time of execution allowing a Data state record to be kept over time for analysis and comparison.



A complete log of all Executed Plans can be kept along with Data Snapshots.

The Log keeps a complete record of all execution parameters.

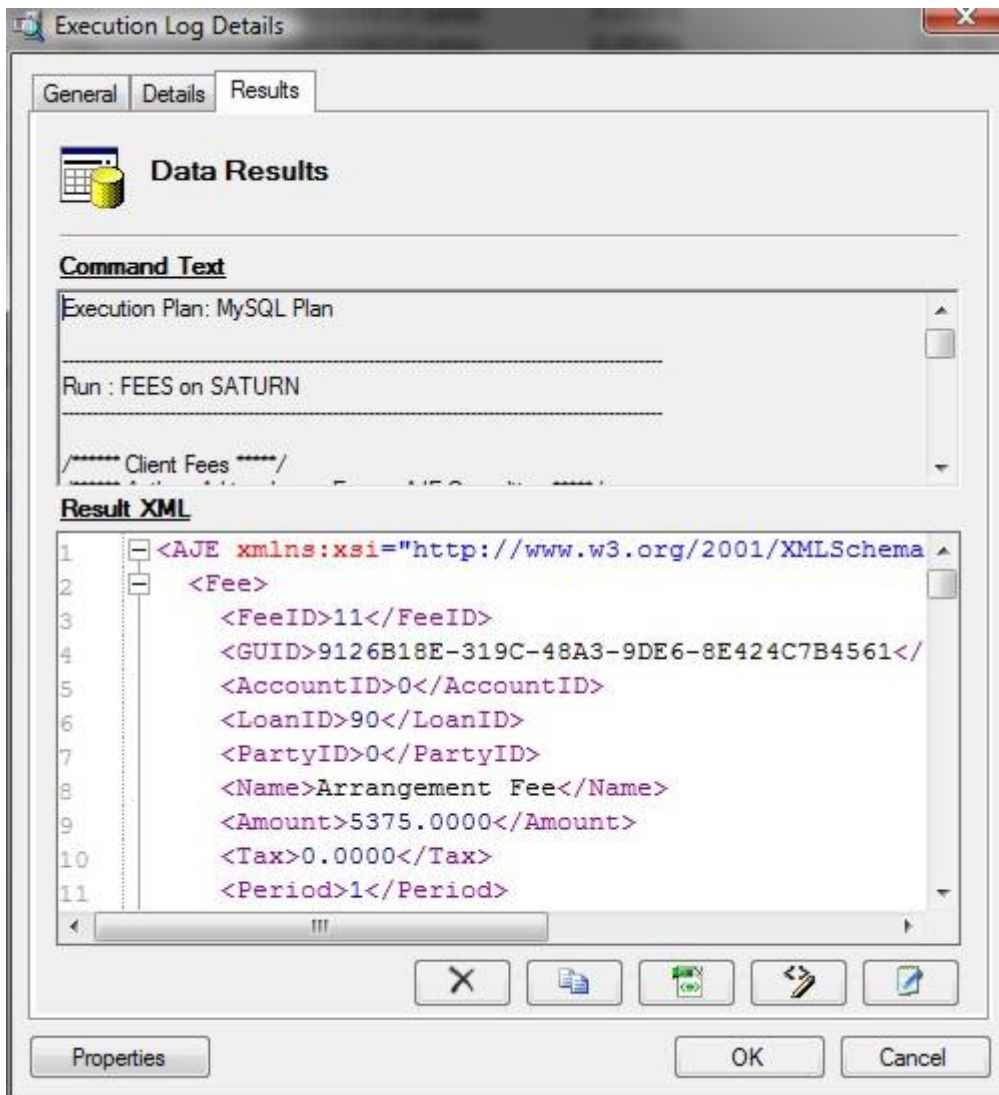






## Data Results

If Snapshots are enabled for the Data Execution Plan the exact Command Text that was Executed at the time is captured along with the Result XML.



## Data Asset Stores

Indigo DQM Data Asset Store is a Database that contains all the Data Command Queries, Data Folders, Data Sources, Data Reports, Data Execution Plans and Execution Logs in a shared Data Repository.

Its purpose is to consolidate Data Assets into a shared repository for the most efficient and effective Data Management, Querying, Processing and Reporting.

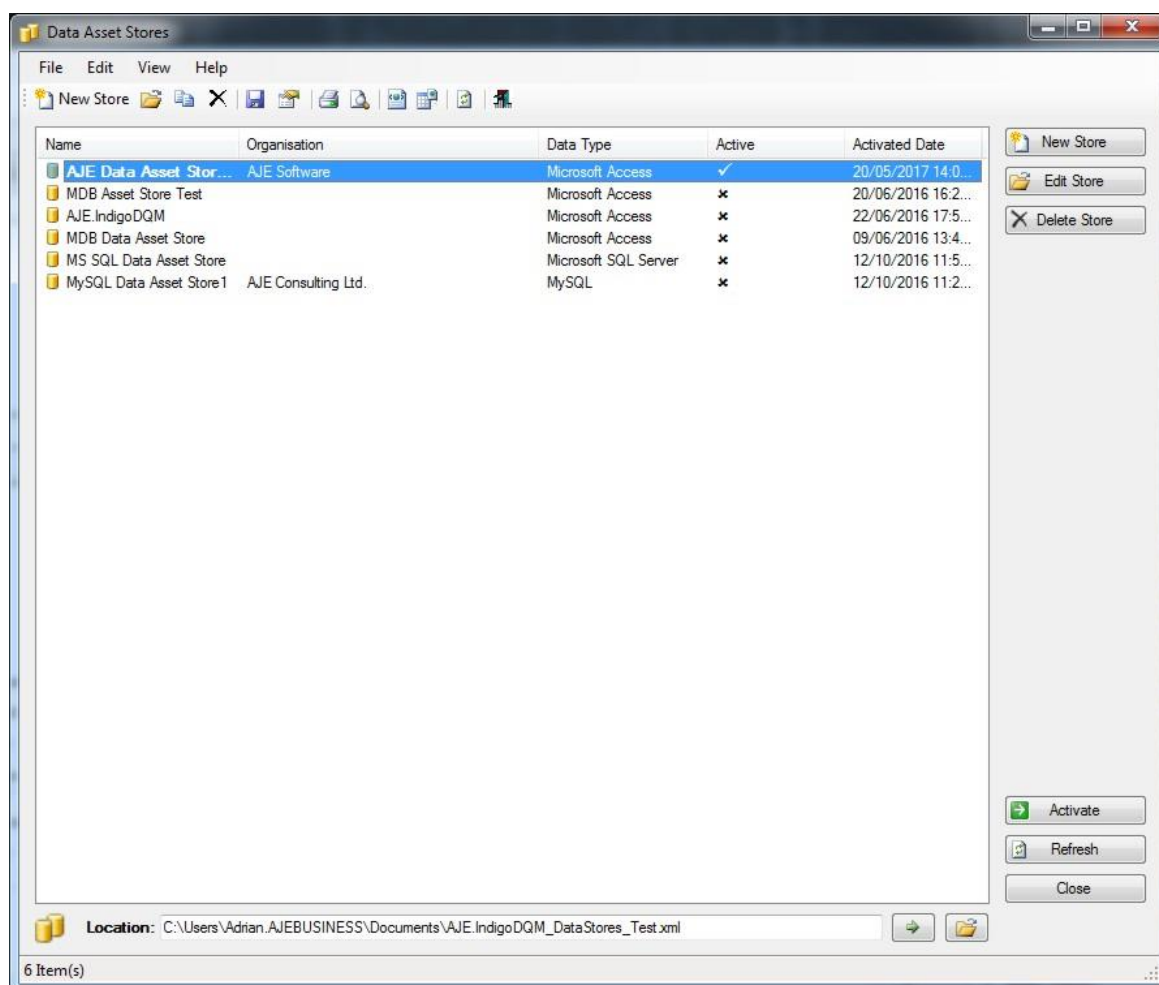
Data consolidation allows the collection and integration of data from multiple sources into a single destination. During this process, different data sources and types are put together, or consolidated, into the Indigo DQM Data Asset Store.

Indigo DQM allows multiple Data Assets Stores to be configured with Data Asset Stores Tool. Different Data Stores can be Added, Edited, Delete and Activated.

The Indigo DQM Data Asset Store allows Data Queries, Data Sources, Data Reports and Execution Plans to be organized into Data Folders for the most effective management and availability of Data Assets.

## Configuration of multiple Data Asset Stores

Multiple Data Asset Stores can be setup and Activated 'Switched' using the Data Asset Stores configuration Tool.

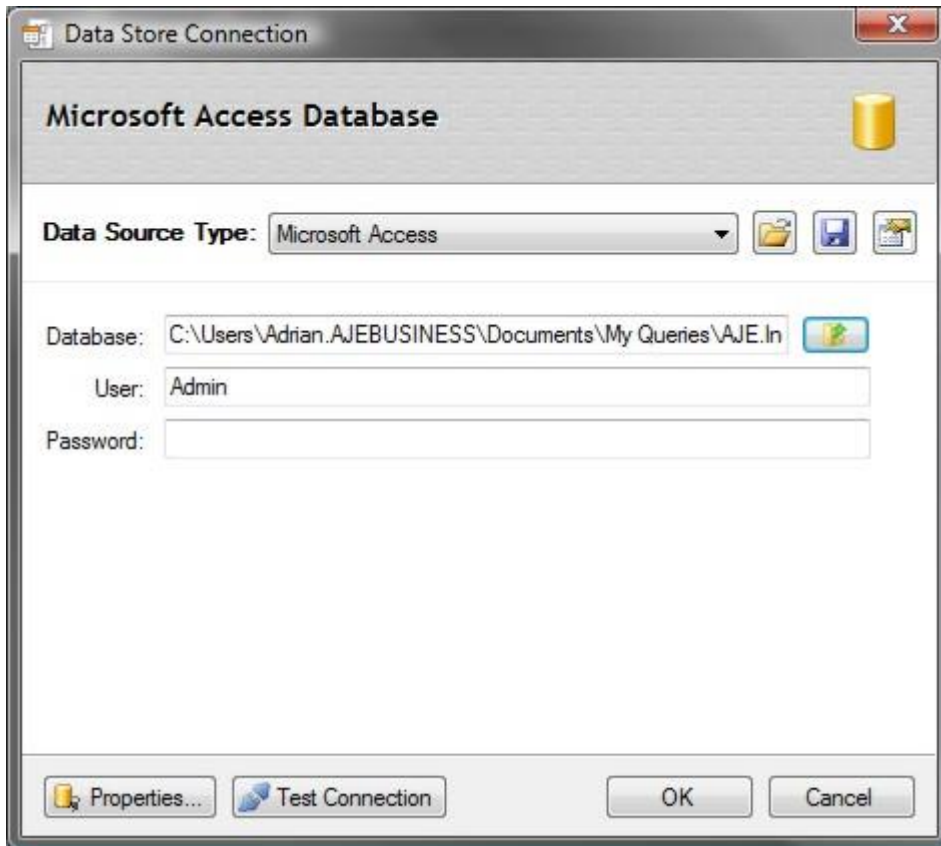


To Activate the Data Asset Store click the Activate Button and the Store will become the Active Store.

Indigo DQM Data Asset Store supports multiple Data Sources Types including Microsoft SQL Server, Microsoft Access and MySQL. The Data Store can be migrated to any of these Data Source Types using the inbuilt features of the system or with the tools provided with your Database.

## Default Data Asset Store

Initially the system comes with a default Data Assets Store as an MDB Database which is installed in the User Documents Folder.



This can be moved to any location including a network share. The Data Store may also reside on another type of database such as Microsoft SQL Server or MySQL.

You can migrate the Data Asset Store to another Database using the built-in migration features of the system or with the tools provided with your Database.

## Adding a Data Asset Store

Adding a new Data Asset Store using a Microsoft SQL Server Database.

Enter a Name and Description for the Data Store.

The screenshot shows a Windows-style dialog box titled "Data Store - Editing". It has three tabs: "Details", "Encryption", and "Notes". The "Details" tab is selected. Below the tabs is a yellow cylinder icon and the title "Data Store Connection". The form contains the following fields and values:

- Name:** AJE Data Asset Store Indigo DQM
- Description:** Data Asset Store for Indigo DQM
- Reference:** IndigoDQM
- Organisation:** AJE Software
- Connection String:** Provider=Microsoft.Jet.OLEDB.4.0;Data Source="D:\Development Testing\Indigo DQM\Stores\AJE.IndigoDQM10.mdb";Password=;User ID=Admin
- Encrypt Connection String:** ☒
- Type:** Microsoft Access
- Server:** JUPITER
- Database:** AJE.IndigoDQM10.mdb

At the bottom of the dialog, there are three buttons: "Properties", "OK", and "Cancel". The "OK" button is highlighted with a blue border.

Specifying the connection parameters to the Data Store using the Connection Dialog.

Connection Strings can be Saved or Opened into the Data Connection Dialog.

## Data Asset Store Creation Wizard

Indigo DQM includes a utility to Create a new MDB Data Asset Store on the fly.

The Data Asset Store is a Database that holds all the Data Command Queries, Data Folders, Data Sources, Data Reports, Execution Plans and Execution Logs in a shared Data Repository.

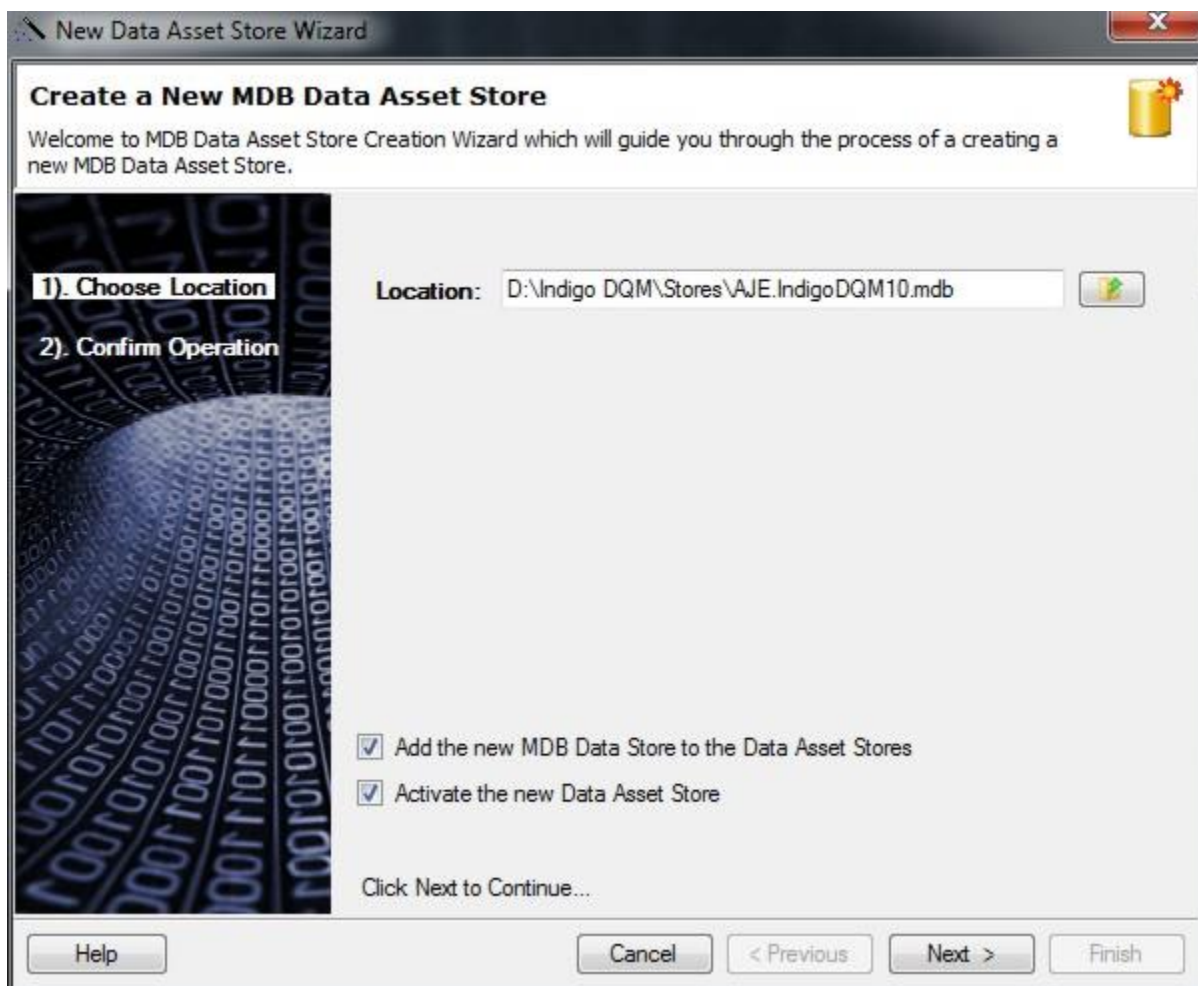
Initially the system comes with a default Data Assets Store as an MDB Database which is installed in the User Documents Folder. Its purpose is to consolidate Data Assets into a shared repository for the most efficient Data Management, Processing, Access and Reporting.

### Creating a new MDB Data Store with the Wizard

To Create a new MDB Data Store select the option from the Data Management Studio Tools menu. Follow the instructions in the Wizard.

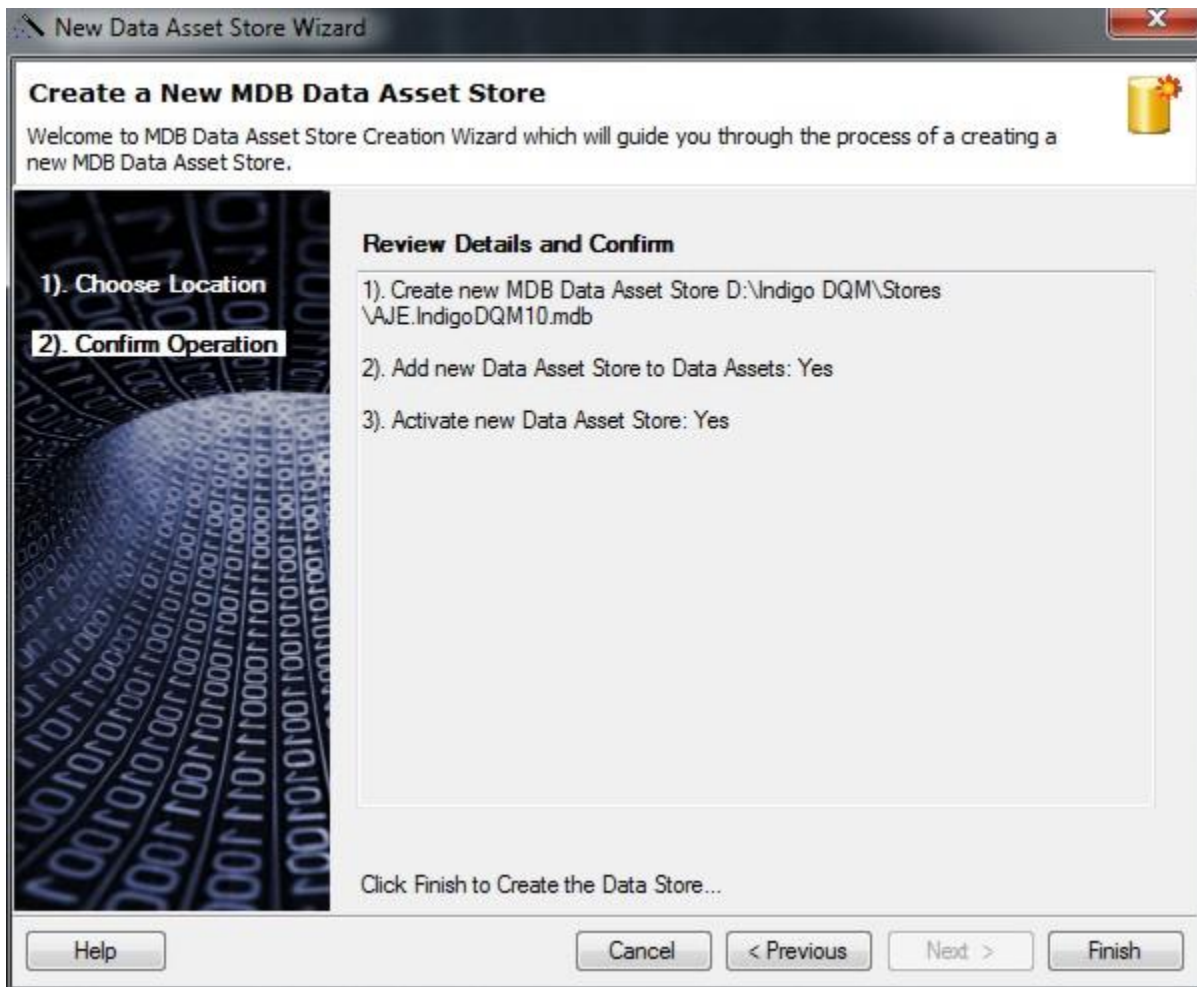
Select the location to Create the new MDB Data Store using the browse button.

Check the option to the Add the Data Asset Store.



To Activate the Data Asset Store check Activate and the Store will become the Active Store upon completion of the Wizard.





Indigo DQM Data Asset Store supports multiple Data Sources Types including Microsoft SQL Server, Microsoft Access and MySQL.

The Data Store can be migrated to any of these Data Source Types using the inbuilt features of the system or with the tools provided with your Database.

## Data Store Properties

To View the Advanced Properties of the Data Asset Store click the Properties button.

**Advanced Properties**

<b>Data Activation</b>	
Activated Date	19/10/2017 16:00
Activated Count	11
Last Active Date	21/11/2017 10:38
<b>Data Backup</b>	
Backup Name	AJE.IndigoDQM10
Backup Location	E:\Backup\Indigo DQM\Data Store
Backup Encrypted	True
Backup Compressed	True
Last Backup By	AJEBUSINESS\adrian
Last Backup Date	01/11/2017 14:16
<b>Data Encryption</b>	
Password	
<b>Data Licensing</b>	
Enabled	False
URI	
<b>Data Restore</b>	
Backup Name	AJE.IndigoDQM10
Backup Location	D:\Indigo DQM\Backup
Last Restore By	AJEBUSINESS\adrian
Last Restore Date	01/11/2017 14:17
<b>Data Store</b>	
GUID	2fb1faf4-8659-4a31-83d5-e3e4ff9d532b
Active	True
<b>Name</b>	AJE Data Asset Store Indigo DQM
Description	Data Asset Store for Indigo DQM Data Management System
Reference	IndigoDQM
Organisation	AJE Software
Notes	
Data Type	Microsoft_Access
Connection String	Provider=Microsoft.Jet.OLEDB.4.0;Data Source="D:\Deve
Encrypt Connection String	True
Data Server Name	JUPITER
Database Name	AJE.IndigoDQM10.mdb
<b>RSS Feed Store</b>	
Location	Private
File	C:\Users\Adrian.AJEBUSINESS\Documents\AJE.IndigoDQM10.mdb
<b>Time Stamps</b>	
Created Date	12/10/2016 21:45
Modified Date	21/11/2017 10:07
<b>User Name</b>	
Created By	AJEBUSINESS\adrian
Modified By	AJEBUSINESS\adrian

**Name**  
The Name of the Data Asset Store.

OK Cancel

Additional information about the Data Asset Store can be viewed included Time Stamps.

## Data Encryption

Indigo DQM features AES 256 Encryption allowing Data Assets to be stored and transmitted across the Internet / Cloud in the most secure way possible.

Data Result Outputs, Data Source Files, Raw Data and Backup Data can be Encrypted and stored securely using the highest level of cryptography.

Encryption can be setup globally in Program and Settings or applied to an individual Data Asset Store where a Private Encryption Password will be used to Encrypt Data.

**Data Store - Editing**

Details Encryption RSS Notes

**Data Encryption**

☒ Default or Global Encryption Password\*

☐ Private Encryption Password:

Generate

Show Password

Confirm Password:

Password Quality: 100% - Excellent, Length: 36 Char(s)

**System Warning**

A copy of the Data Store Encryption Password must be kept in a secure location! Data Encryption / Decryption will only work if the Passwords match!

\*Warning: The Default Password is only recommended for Testing! You must create your own secure Passwords for Encryption!

Properties OK Cancel

To use a Private Encryption Password on the Data Store select the Radio button and Enter a Strong Password.

Click the Generate button to automatically create a strong Encryption Password. The strength of the Password is shown by the Quality Bar.

Great care must be taken to keep copies of Encryption Passwords in a secure location. If you lose your Password you will not be able to Decrypt your Data.

You must also remember what Password you used to Encrypt Data if you decide to change the Password at a later stage. Encryption / Decryption will only work if the Encryption Passwords are the same.

**Data Store - Editing**

Details Encryption RSS Notes

**Data Encryption**

☐ Default or Global Encryption Password\*

☒ Private Encryption Password:



☐ Show Password

Confirm Password:

Password Quality: 100% - Excellent, Length: 36 Char(s)

**System Warning**

A copy of the Data Store Encryption Password must be kept in a secure location! Data Encryption / Decryption will only work if the Passwords match!

\*Warning: The Default Password is only recommended for Testing! You must create your own secure Passwords for Encryption!

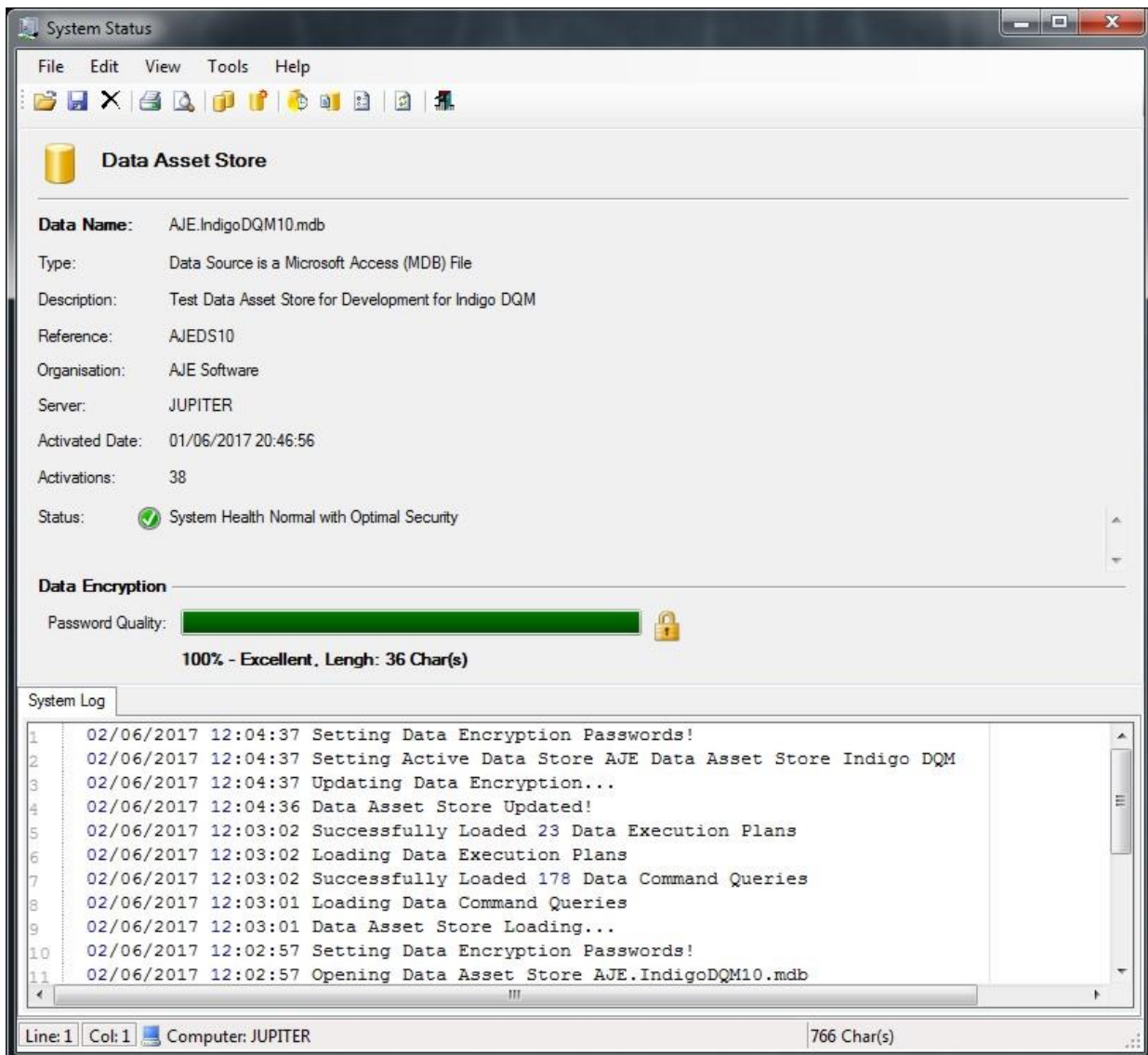
Properties OK Cancel

The Advanced Encryption System (AES) 256 is a symmetrical encryption algorithm that uses a 256-bit Encryption Key. It is accepted by the U.S. and Canadian governments as the most secure way to store sensitive Data.

With AES-256 bit encryption you can be assured that you will be the only one who can access your critical information.

## Data Store and System Status

Information on the current Data Asset Store and the System Status and Log can be viewed on the System Status Dialog.



System Status showing details about the current Active Data Asset Store.

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