ReportBuilder™ Quick Start Guide

A ReportBuilder™ project consists of a ReportBuilder™ Server Project File and one or more ReportBuilder™ Clients.

- The ReportBuilder™ Server application is used to create and edit your ReportBuilder™ project file, which contains information about your report data (i.e., database names and locations, table names, and tag names).
- The ReportBuilder™ Client Microsoft Excel add-in allows you to build and run reports. A ReportBuilder™ Client must be installed on each node that you wish to build and run reports from.

> Note: The "Base" ReportBuilder™ package contains one Server license and one Client license. You must obtain a separate license key for each additional Client.

To install and configure a ReportBuilder™ project, you'll follow these steps:

1. Review the different installation scenarios outlined here and determine which scenario is best for your project, then install the ReportBuilder™ software
2. Build your ReportBuilder™ project file
3. Point your ReportBuilder™ Client(s) to your project file
4. Build your Reports in Microsoft Excel

Section 1: Installation Scenarios

As a minimum, you must install ReportBuilder™ Server and at least one ReportBuilder™ Client. *Where* you install these components depends on the following factors:

- The number and location of PCs from where you want to build and run reports
- The location of your data sources or "report data" (i.e., "historical data" logged by SCADA, Manually entered data, etc.)

Note for all Installation Scenarios described below: After using the ReportBuilder™ Server application to create your ReportBuilder™ Project file, you must "point" each Client Node to the ReportBuilder™ project file. This is done via the ReportBuilder™ Client UDL dialog (accessible from the WorkSmart Automation ReportBuilder™ program group.

Some typical installation scenarios are listed on the following pages.

Scenario #1: Standalone system (not networked)

Scenario #2: SCADA System logging data to a Remote Node

Scenario #3: SCADA System and data on Node(s); Reporting functions on a separate Node

Scenario #4: iFIX or FIX32 SCADA System with ReportBuilder™ ODBC Server for Intellution

Scenario #5: InTouch SCADA System with ReportBuilder™ ODBC Server for Wonderware

After determining which scenario best fits your system, locate your ReportBuilder™ serial numbers for both Server and Client components. You will need these in order to install ReportBuilder™. These serial numbers are typically located on the CD sleeve or envelope containing the ReportBuilder™ CD.

The CD will auto run once placed in a CD drive. If not, browse the CD for **Launch.exe** and click Enter. Install desired components from the CD browser tool from this point.

Scenario #1: Standalone system (not networked)
All logged data resides on the standalone node. Reports shall be built and run from this node.
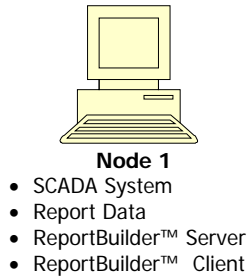
Node 1
- SCADA System
- Report Data
- ReportBuilder™ Server
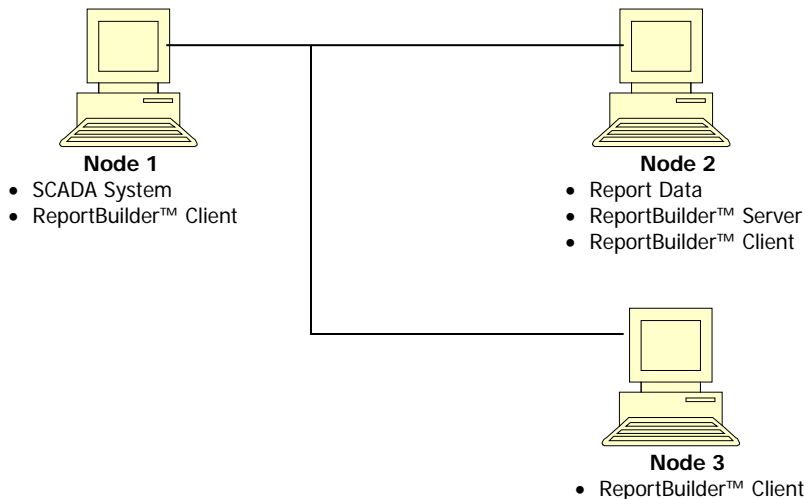- ReportBuilder™ Client

Install ReportBuilder™ Components:

- ReportBuilder™ Server: Install on Node 1
- ReportBuilder™ Client: Install on Node 1

Scenario #2: SCADA System logging data to a Remote Node
The SCADA System resides on Node 1 and logs its data to another node on the network, Node 2.

Node 1
- SCADA System
- ReportBuilder™ Client

Node 2
- Report Data
- ReportBuilder™ Server
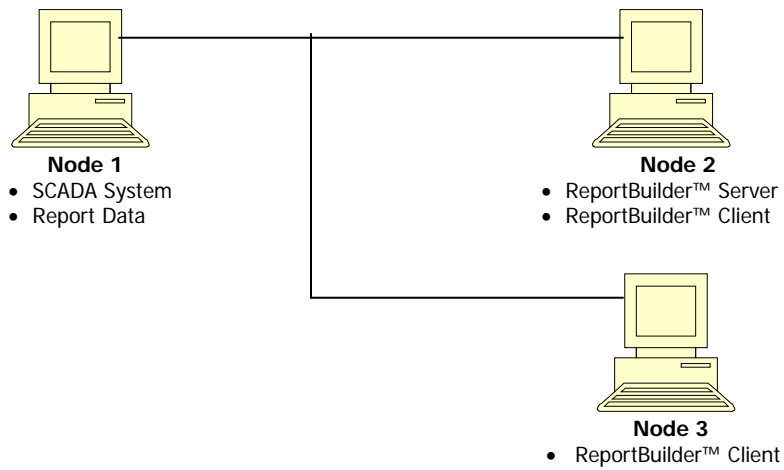- ReportBuilder™ Client

Node 3
- ReportBuilder™ Client

Install ReportBuilder™ Components:

- ReportBuilder™ Server: Can be installed on Node 1, Node 2 or Node 3. A slight performance gain may result if the ReportBuilder™ Server application and project file are installed on the same node where most reporting will take place. In the example above, Node 2 will be the primary node for developing and running reports whereas Node 1 and Node 3 will be used only some of the time.
- ReportBuilder™ Client(s): Install a client on each node from where you wish to build and run reports (Nodes 1, 2 & 3 in the example above).

Scenario #3: SCADA System and data on Node(s); Reporting functionality on separate Node

The SCADA System resides on Node 1. The customer wants all reporting functions to reside on a Node (or nodes) separate from SCADA.

Node 1
- SCADA System
- Report Data

Node 2
- ReportBuilder™ Server
- ReportBuilder™ Client

Node 3
- ReportBuilder™ Client

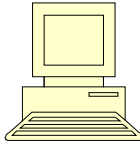Install ReportBuilder™ Components:

- ReportBuilder™ Server: Install on Node 2.
- ReportBuilder™ Client(s): Install a client on each node from where you wish to build and run reports (Nodes 2 & 3 in the example above).

Scenario #4: iFIX or FIX32 with ReportBuilder ODBC Server for Intellution

> In all scenarios involving the ReportBuilder ODBC Server for Intellution, the ODBC Server for
> Intellution must reside on the Intellution SCADA node (it cannot be installed on an Intellution
> VIEW Node). The historical data files (.h24 files) can reside on the same or different nodes
> as the ReportBuilder ODBC Server.

Standalone Intellution (non-networked) Node:
The Intellution iFIX or FIX32 SCADA System and all reporting functionality reside on a single node.
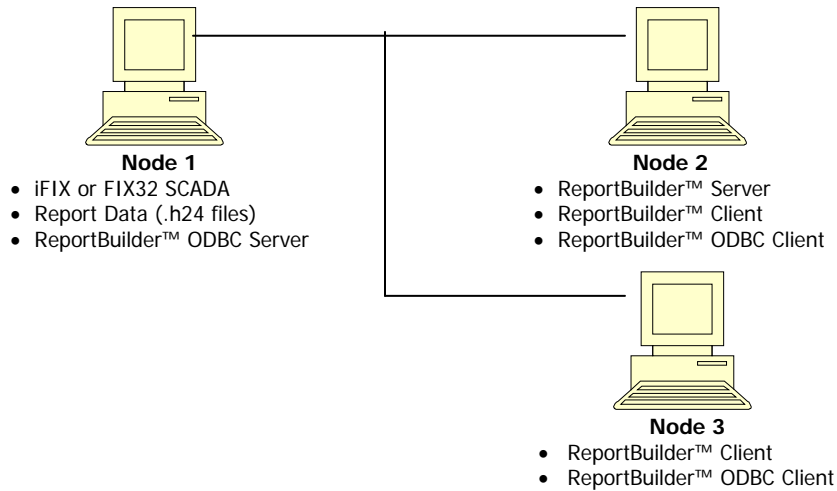
Node 1
- Intellution SCADA
- Report Data (.h24 files)
- ReportBuilder™ Server
- ReportBuilder™ Client
- ReportBuilder™ ODBC Server
- ReportBuilder™ ODBC Client

Install ReportBuilder™ Components:

- ReportBuilder™ ODBC Server: With Intellution SCADA running install the ReportBuilder™ ODBC
  Server. The ODBC Server License Manager Utility will detect the presence of the Intellution
  SCADA software only while it's running.
- Shut down Intellution SCADA then install all remaining components.

<u>Networked Intellution Node:</u>
The Intellution iFIX or FIX32 SCADA System resides on Node 1. The customer wants to build and run reports from Nodes 2 & 3.

Node 1
- iFIX or FIX32 SCADA
- Report Data (.h24 files)
- ReportBuilder™ ODBC Server

Node 2
- ReportBuilder™ Server
- ReportBuilder™ Client
- ReportBuilder™ ODBC Client

Node 3
- ReportBuilder™ Client
- ReportBuilder™ ODBC Client

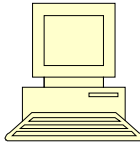Install ReportBuilder™ Components:

- ReportBuilder™ ODBC Server: With Intellution SCADA running install the ReportBuilder™ ODBC Server on Node 1. The ODBC Server License Manager Utility will detect the presence of the Intellution SCADA software only while it's running.
- ReportBuilder™ Server: Can be installed on Node 1, Node 2 or Node 3.   A slight performance gain may result if the ReportBuilder™ Server application and project file are installed on the same node where most reporting will take place. In the example above, Node 2 will be the primary node for developing and running reports whereas Node 3 will be used only some of the time.
- ReportBuilder™ Client(s): Install a client on each node from where you wish to build and run reports (Nodes 2 & 3 in the example above).
- ReportBuilder™ ODBC Client(s): Install a client on each node from where you wish to build and run reports (Nodes 2 & 3 in the example above).

Scenario #5: InTouch with ReportBuilder ODBC Server for Wonderware

> In all scenarios involving the ReportBuilder ODBC Server for Wonderware, the Wonderware Histdata application must be installed on the same node as the ODBC Server for Wonderware. InTouch and/or the historical data files (.lgh files) can reside on the same or different nodes as the ReportBuilder ODBC Server.

Standalone InTouch (non-networked) Node:
The InTouch SCADA System and all reporting functions reside on a single node.

Node 1
- InTouch SCADA
- Report Data (.lgh files)
- Wonderware HistData
- ReportBuilder™ Server
- ReportBuilder™ Client
- ReportBuilder™ ODBC Server
- ReportBuilder™ ODBC Client

Install ReportBuilder™ Components:

- ReportBuilder™ Server: Install on Node 1
- ReportBuilder™ Client: Install on Node 1
- ReportBuilder™ ODBC Server: Install on Node 1
- ReportBuilder™ ODBC Client: Install on Node 1

Modify path information in the ReportBuilder™ ODBC Server Configuration File:

1. Start the ReportBuilder™ Server application by clicking **Start > Programs > OpenRDA Server for Wonderware FactorySuite > Configuration File**. The Configuration file will open.
2. Locate the [Wonderware] section. Modify the following environment variables:

```
DataDir=<path containing InTouch historical (.lgh) files>
DbDir=<path containing InTouch application>
```
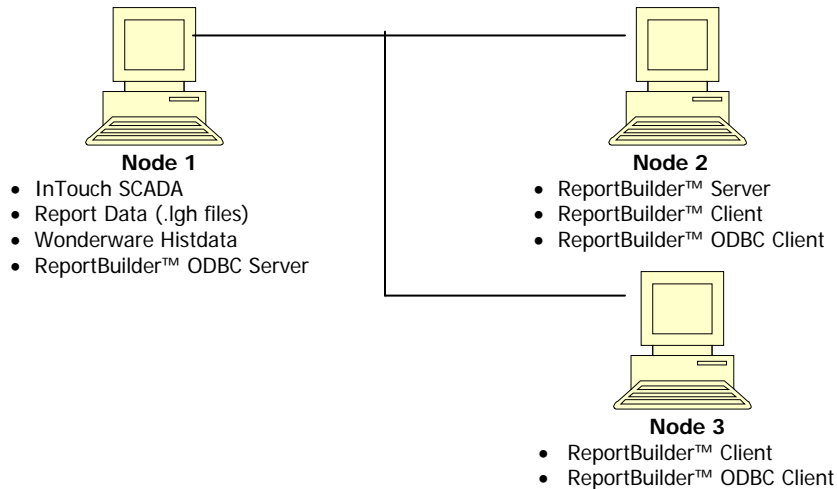
   For example,

```
DataDir=C:\History
DbDir=C:\Program Files\FactorySuite\InTouch\wwapp
```

3. When finished, save the configuration file and exit.

<u>Networked InTouch Node:</u>
The InTouch System resides on Node 1. The customer wants to build and run reports from Nodes 2 & 3.

Node 1
- InTouch SCADA
- Report Data (.lgh files)
- Wonderware Histdata
- ReportBuilder™ ODBC Server

Node 2
- ReportBuilder™ Server
- ReportBuilder™ Client
- ReportBuilder™ ODBC Client

Node 3
- ReportBuilder™ Client
- ReportBuilder™ ODBC Client

Install ReportBuilder™ Components:

- ReportBuilder™ ODBC Server: Can be installed on Node 1, Node 2, or Node 3. However, the Wonderware Histdata application must be installed on the same Node as the ODBC Server (Node 1 in the above example).
- ReportBuilder™ Server: Can be installed on Node 1, Node 2 or Node 3. A slight performance gain may result if the ReportBuilder™ Server application and project file are installed on the same node where most reporting will take place. In the example above, Node 2 will be the primary node for developing and running reports Node 3 will be used only some of the time.
- ReportBuilder™ Client(s): Install a client on each node from where you wish to build and run reports (Nodes 2 & 3 in the example above).
- ReportBuilder™ ODBC Client(s): Install a client on each node from where you wish to build and run reports (Nodes 2 & 3 in the example above).

Modify path information in the ReportBuilder™ ODBC Server Configuration File:

1. Start the ReportBuilder™ Server application by clicking **Start > Programs > OpenRDA Server for Wonderware FactorySuite > Configuration File**. The Configuration file will open.
2. Locate the [Wonderware] section. Modify the following environment variables:

   ```
   DataDir=<path containing InTouch historical (.lgh) files>
   DbDir=<path containing InTouch application>
   ```

   For example,

   ```
   DataDir=C:\History
   DbDir=C:\Program Files\FactorySuite\InTouch\wwapp
   ```

   If the InTouch historical files reside on another machine on the network, use Windows Explorer to **Map Network** a **Drive** (e.g., drive Z:\).

   ```
   DataDir=Z:\
   ```

3. When finished, save the configuration file and exit.

Section 2: Building your ReportBuilder™ Project File

The ReportBuilder™ Server application is used to build your ReportBuilder™ Project File. Every ReportBuilder™ Client is pointed to a ReportBuilder™ Project File.   The project file consists of four entities:

- Databases: Defines the name and location of the database(s) or "data source(s)" that contain the report data.
- Tables: Data within a database is organized into one or more Tables.
- Tag Groups: Defines how tags are to be organized within your ReportBuilder™ project.
- Tags: Defines the actual data points ("tags") that you wish to report on.

The following sections provide a brief overview on how to create and configure your ReportBuilder™ Project file. For more detailed information, please refer to the online Help file found within the ReportBuilder Server application. Help topics are available that describe how to configure a ReportBuilder project for your specific SCADA system or database.

To Create a new ReportBuilder Project file:
1. Start the ReportBuilder™ Server application by clicking **Start > Programs > WorkSmart Automation ReportBuilder > ReportBuilder Server**.
2. Select **File > New Project**. Browse to the desired folder and select a name for your project.

Databases
A database is a collection of data that you wish to report on. When you configure a database in your project, you are telling ReportBuilder™ where it can find your report data. Some examples of databases are:

- Data Logged by your SCADA system (InTouch, iFIX, Lookout, RSView, etc.)
- SQL Server or Microsoft Access

To Create a database connection in your ReportBuilder™ project:
1. From the ReportBuilder™ Server application, click on **Databases** in the left-hand pane then click **New**.
2. Enter a **Database Name** and **Description** (these entries are arbitrary).
3. Click **Build** to build the OLE Connection String to the database.

If your database is	From the **Provider** Tab, Select:	From the **Connection** Tab,
SQL Server	Microsoft OLE DB Provider for SQL Server	Select the Server Name and database on the Server
Microsoft Access	Microsoft Jet 4.0 OLE DB Provider	Browse to the location of the Microsoft Access database (.mdb file) that contains your report data
InTouch, iFIX, Lookout, etc.	Microsoft OLE DB Provider for ODBC Drivers	Select the desired Data Source Name

4. When finished adding/modifying databases, Click **Save and Close**.

<u>Tables</u>

Report data is organized within one or more tables within a database. When you configure a table in your project, you are telling ReportBuilder™ where report data is stored.

To Create a Table in your ReportBuilder™ project:
1. From the ReportBuilder™ Server application, click on **Tables** in the left-hand pane then click **New**.
2. Enter the **Table Name** *exactly* as it appears in the database and select the **Database** to which the table belongs.
3. Select the appropriate **Function Pack** for this table. Some examples are listed below:

If your database is	Enter this **Table Name**	Select this **Function Pack**
InTouch via ODBC (.lgh files)	ARCHIVE	Datapoint Summary Logging Functions
InTouch logging to external database (i.e., SQL Server or Access)	<Table Name> exactly as it appears in the database (defined by user)	Database Logging Functions
FIX32 or iFIX Classic Historian Files via ODBC	ARCHIVE	Intellution FIX Historical Log Functions
FIX32 or iFIX logging to external database (i.e., SQL Server or Access)	<Table Name> exactly as it appears in the database (defined by user)	Database Logging Functions
Lookout Citadel	Traces	Nat'l Inst. Lookout Citadel Functions
RSView logging to external database (i.e., SQL Server or Access)	<Table Name> exactly as it appears in the database (defined by user)	Database Summary Logging Functions
Microsoft Access	<Table Name> exactly as it appears in the database (defined by user)	Depends on the table Schema (refer to ReportBuilder™ Server Help for more information)
SQL Server	<Table Name> exactly as it appears in the database (defined by user)	Depends on the table Schema (refer to ReportBuilder™ Server Help for more information)

4. Enter the **DateTime Column Name**. This is the name of the column in the database that contains the timestamp of the logged data. Some examples are listed below:

If your database is	Enter this **DateTime Column Name**
InTouch via ODBC (.lgh files)	TIME
InTouch logging to external database (i.e., SQL Server or Access)	<Column Name> exactly as it appears in the database (defined by user)
FIX32 or iFIX Classic Historian Files via ODBC	N/A
FIX32 or iFIX logging to external database (i.e., SQL Server or Access)	<Column Name> exactly as it appears in the database (defined by user)
Lookout Citadel	LocalTime or UTCTime
RSView logging to external database (i.e., SQL Server or Access)	DateandTime
Microsoft Access	<Column Name> exactly as it appears in the database (defined by user)
SQL Server	<Column Name> exactly as it appears in the database (defined by user)

5. Select the **SQL Time Format**. Some databases represent time differently than others. You may choose from a list of pre-defined time formats or create your own. Some examples are listed below:

If your database is	Select this **SQL Time Format**
InTouch via ODBC (.lgh files)	'yyyy-mm-dd hh:mm:ss'
InTouch logging to external database (i.e., SQL Server or Access)	MS Access Time Format or SQL Server Time Format, depending on the target database
FIX32 or iFIX Classic Historian Files via ODBC	None
FIX32 or iFIX logging to external database (i.e., SQL Server or Access)	MS Access Time Format or SQL Server Time Format, depending on the target database
Lookout Citadel	None
RSView logging to external database (i.e., SQL Server or Access)	MS Access Time Format or SQL Server Time Format, depending on the target database
Microsoft Access	MS Access Time Format
SQL Server	SQL Server Time Format

6. Where applicable, select or create the **Column List**. Several database schemas allow you to report on more than one attribute for a given tag. A Column List allows you to build a list of these attributes. Some examples are listed below:

If your database is	Select this **Column List**
InTouch via ODBC (.lgh files)	InTouch Column List
InTouch logging to external database (i.e., SQL Server or Access)	None
FIX32 or iFIX Classic Historian Files via ODBC	Intellution FIX Historical Log Column List
FIX32 or iFIX logging to external database (i.e., SQL Server or Access)	None
Lookout Citadel	None
RSView logging to external database (i.e., SQL Server or Access)	RSView Column List
Microsoft Access	User defined (depends on table schema)
SQL Server	User defined (depends on table schema)

7. Where applicable, select or create the **Summary Value List**. The **Datapoint Summary Logging** and **Intellution FIX Historical Log** Function Packs support an additional qualifier for SQL queries. A Summary List allows you to build a list of these qualifiers. Some examples are listed below:

If your database is	Select this **Summary Value List**
InTouch via ODBC (.lgh files)	List of Data Intervals (i.e., 1m, 1h, 1d, 1s)
InTouch logging to external database (i.e., SQL Server or Access)	N/A
FIX32 or iFIX Classic Historian Files via ODBC	iFIX Historical Mode Summaries
FIX32 or iFIX logging to external database (i.e., SQL Server or Access)	N/A
Lookout Citadel	N/A
RSView logging to external database (i.e., SQL Server or Access)	N/A
Microsoft Access	User defined (depends on table schema)
SQL Server	User defined (depends on table schema)

8. Where applicable, enter the **Tagname Column Name**. A normalized database table will typically have a single column that contains the name of the tag(s) being logged. Enter the name of this column here *exactly* as it appears in the database table. Some examples are listed below:

If your database is	Enter this **Tagname Column Name**
InTouch via ODBC (.lgh files)	TAG
InTouch logging to external database (i.e., SQL Server or Access)	None
FIX32 or iFIX Classic Historian Files via ODBC	None
FIX32 or iFIX logging to external database (i.e., SQL Server or Access)	None
Lookout Citadel	None
RSView logging to external database (i.e., SQL Server or Access)	TAGNAME
Microsoft Access	User defined (depends on table schema)
SQL Server	User defined (depends on table schema)

9. When finished adding/modifying tables, Click **Save and Close**.

For more information on Table definitions and Function Packs, refer to the ReportBuilder™ Server Help file.

<u>Tag Groups</u>

ReportBuilder™ tags are assigned to a Tag Group for organizational purposes. For example, you may want to place all of your Flow tags in a Group named "Flows" and all of your Pressure tags in a Group named "Pressures".

To Create a Tag Group in your ReportBuilder™ project:
1. From the ReportBuilder™ Server application, click on **Tag Groups** in the left-hand pane then click **New**.
2. Enter the desired **Group Name** and an arbitrary **Description** for this Tag Group. The Group Name will appear in the **FunctionBuilder** window when building reports.
3. Enter a numeric value for the **Menu Order**. The Menu Order determines the order that the Tag Groups will be displayed in the FunctionBuilder window (0=highest priority). For example, a Value of 0 (zero) will place the Tag Group at the top of the list.
4. When finished adding/modifying tag groups, Click **Save and Close**.

<u>Tags</u>

You will define one tag for each data point that you wish to report on. For example, if you are logging 100 data points from your SCADA system (and you wish to report on all 100 points), you will create 100 corresponding ReportBuilder™ tags.

To Create a Tag in your ReportBuilder™ project:
1. From the ReportBuilder™ Server application, click on **Tags** in the left-hand pane then click **New**.
2. Enter a **Tag Name**. You should enter the tag name as it appears in the SCADA system or database.
3. Enter a **Description** and **Eng Units** for this tag. These entries will appear in the FunctionBuilder window when building reports.
4. Assign the tag to a Tag Group by selecting the desired **Group Name** from the drop down list.
5. Select the **Database/Table** to which the tag belongs.
6. Enter the name of the database table **Column** that contains the value of this tag. This must be entered *exactly* as it appears in the database table. Some examples are listed below:

If your database is	Enter this **Column Name**
InTouch via ODBC (.lgh files)	VALUE
InTouch logging to external database (i.e., SQL Server or Access)	<Tag Name> exactly as it appears in the InTouch Tagname Dictionary
FIX32 or iFIX Classic Historian Files via ODBC	VALUE
FIX32 or iFIX logging to external database (i.e., SQL Server or Access)	<Tag Name> exactly as it appears in the Intellution Database Manager
Lookout Citadel	Use this syntax: \\NodeName\LookoutProjectName\ObjectName
RSView logging to external database (i.e., SQL Server or Access)	Val

7. The **Data Type** field entry is currently not implemented. This field may be left blank or you may enter a Data Type for sorting purposes.
8. When finished adding/modifying tags, Click **Save and Close**.

Section 3: Configuring ReportBuilder™ Client to point to the ReportBuilder™ Project File

By default, ReportBuilder™ Client is installed pointing to the sample application that comes with ReportBuilder™. You will need to point to your new project file created previously in Section 2 of this guide.

To point your ReportBuilder™ Client to your new project file:

1. From the Windows Start Menu, click **Programs > WorkSmart Automation ReportBuilder > ReportBuilder Client UDL**. The Microsoft Data Link Properties window will appear.
2. From the **Connection** tab, locate the field labeled **Select of enter a database name** and browse for the ReportBuilder™ Project file. Leave all other fields at their default values.
3. Click **Test Connection** to verify the connection to the selected project file.
4. Click **OK** when finished.

Verify that your ReportBuilder™ Client is pointed to the correct project file:

1. Start Microsoft Excel then open a blank workbook.
2. From the ReportBuilder™ Menu Bar, click the Lightening bolt icon. When prompted, confirm to make the workbook a ReportBuilder™ workbook.

3. FunctionBuilder will display your project information (i.e., databases, tables, tag groups, and tags). At this point, if you see your project as it was defined in the previous steps, you are ready to begin building reports within Microsoft Excel. For more information about building reports, choose Help from the ReportBuilder™ menu within Microsoft Excel.