

[Tech Note 767](#) Working with InBatch Reports

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Introduction

This *Tech Note* describes working with Microsoft Reporting Services in order to publish InBatch Reports to Wonderware Information Server.

Application Versions

- InBatch 9.0 and later
- Microsoft SQL Server 2005
- Microsoft SQL Server Reporting Services 2005
- Wonderware Information Server 4.0 and later

InBatch 9.0 Reporting Overview

Microsoft Reporting Services replaced IBM's Crystal Reports in InBatch 9.0. Leveraging MS Reporting Services consolidates Archestra reporting capabilities to provide Wonderware Information Server for the reporting content.

Note: Be sure to install **Reporting Services** when installing Microsoft SQL Server 2005. Installing Microsoft Reporting Services also installs **SQL Server Business Intelligence Development Studio**, which is a limited version of Microsoft's Visual Studio 2005 with the specific focus on SQL Server applications.

SQL Server Business Intelligence Development Studio is your Development Environment for InBatch Reports.

Note: You are responsible for all support and maintenance of any customized report.

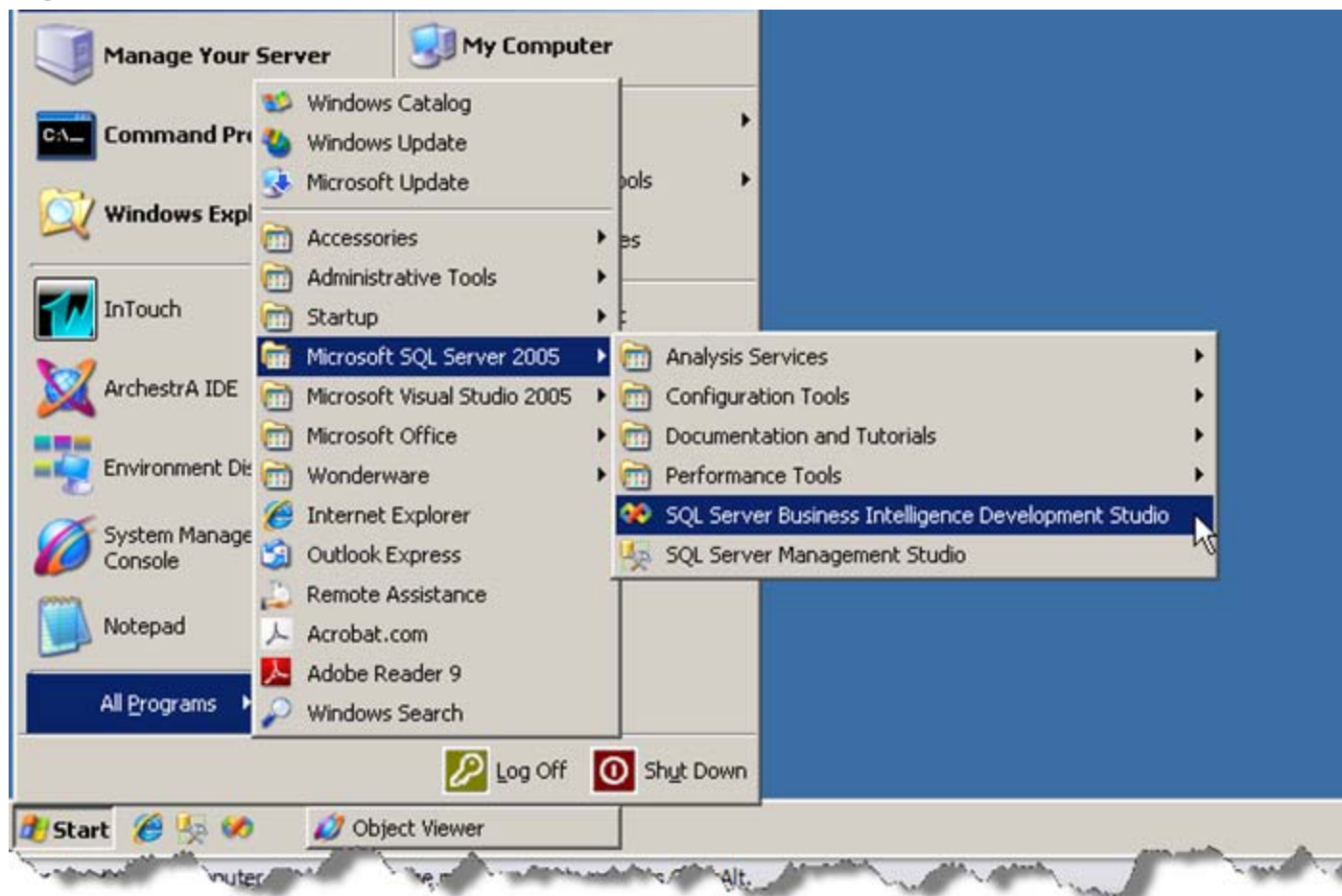


FIGURE 1: INBATCH REPORTING DEVELOPMENT ENVIRONMENT

Separating InBatch Batch History Server and InBatch Reporting Content

Previous versions of InBatch required installing Batch History and Batch Information Server on the same machine. Starting with version 9.0, you have the option to split Batch History Server and Reporting content (Figure 2 below).

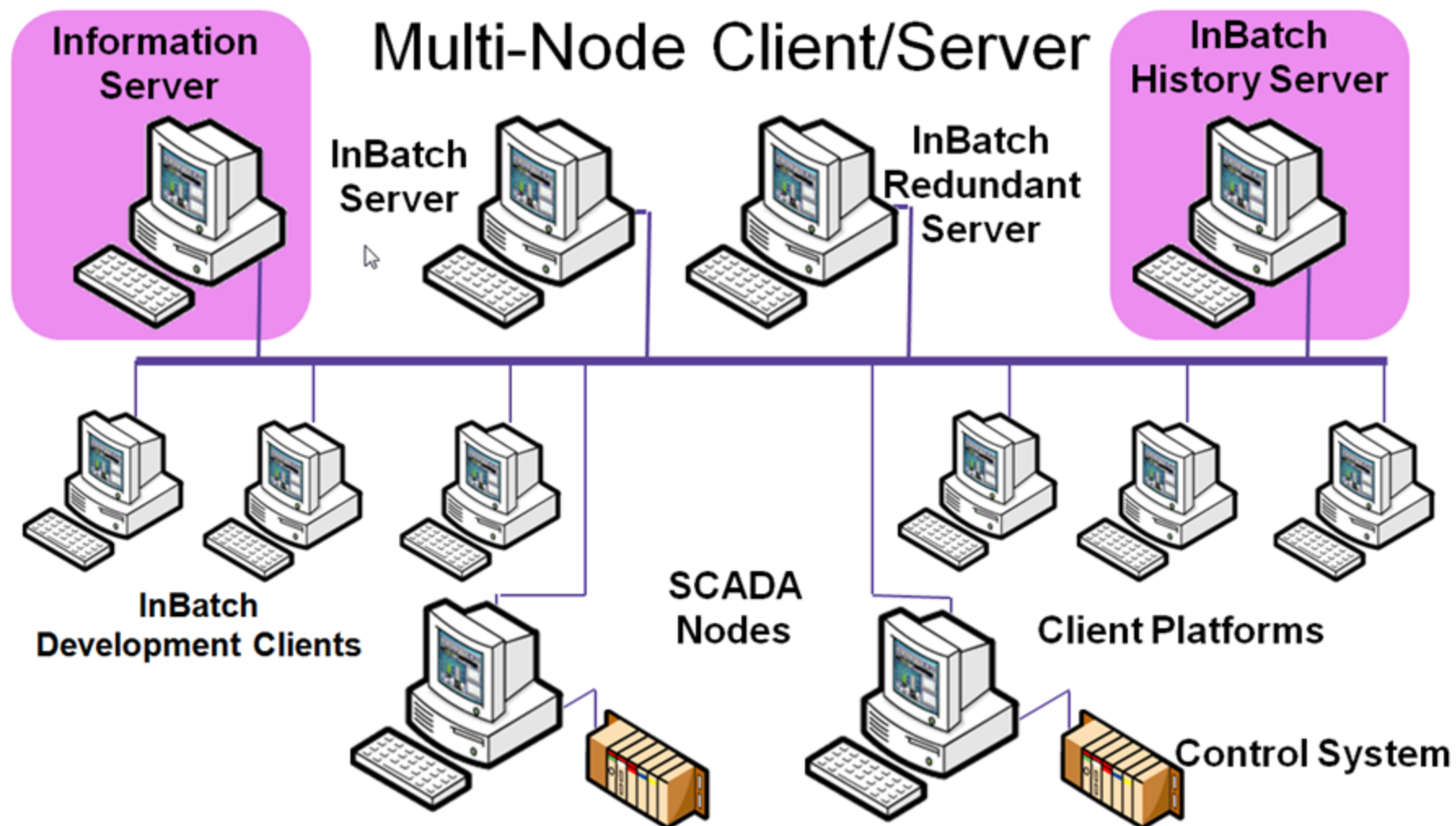


FIGURE 2: DISTRIBUTED INBATCH 9.0 ARCHITECTURE

Wonderware Information Server Replaces InBatch Report Web

Previous InBatch versions used InBatch's Report Web for configuring or running batch reports on the web. This was due to the limiting capabilities provided by Crystal Reports that prevented us to provide a tighter integration into Wonderware Information Server.

Since InBatch 9.0, Wonderware Information Server is the host for all Reporting related tasks, including running, exporting, publishing and scheduling automated report generation, or even scheduling maintenance on the Batch Historian Server.

Retained Features

- The Batch History Database structure (Schema) has not changed. All queries that you created for Crystal Reports can remain unchanged and can be reused within Microsoft Reporting Services.

| Name | Schema |
|-------------------------|--------|
| System Tables | |
| AlarmComment | dbo |
| AnalogAlarm | dbo |
| ApacsAlarm | dbo |
| ApacsOperatorAction | dbo |
| ArchiveHistory | dbo |
| AuditEvent | dbo |
| BatchAdmin | dbo |
| BatchDetail | dbo |
| BatchIdLog | dbo |
| BatchInfo | dbo |
| BatchQuestion | dbo |
| BooleanAlarm | dbo |
| CodeTable | dbo |
| Config | dbo |
| DocViewEvent | dbo |
| EquipStatus | dbo |
| ErrorQ | dbo |
| Event | dbo |
| MaterialChar | dbo |
| MaterialInput | dbo |
| MaterialInputChange | dbo |
| MaterialOutput | dbo |
| NonBatchOperatorActions | dbo |
| OperatorActions | dbo |
| OperatorComment | dbo |
| PhaseInstruction | dbo |
| ProcessLog | dbo |
| ProcessVar | dbo |
| ProcessVarChange | dbo |
| ReportDef | dbo |
| ReportLog | dbo |

FIGURE 3 - BATCH HISTORY SCHEMA

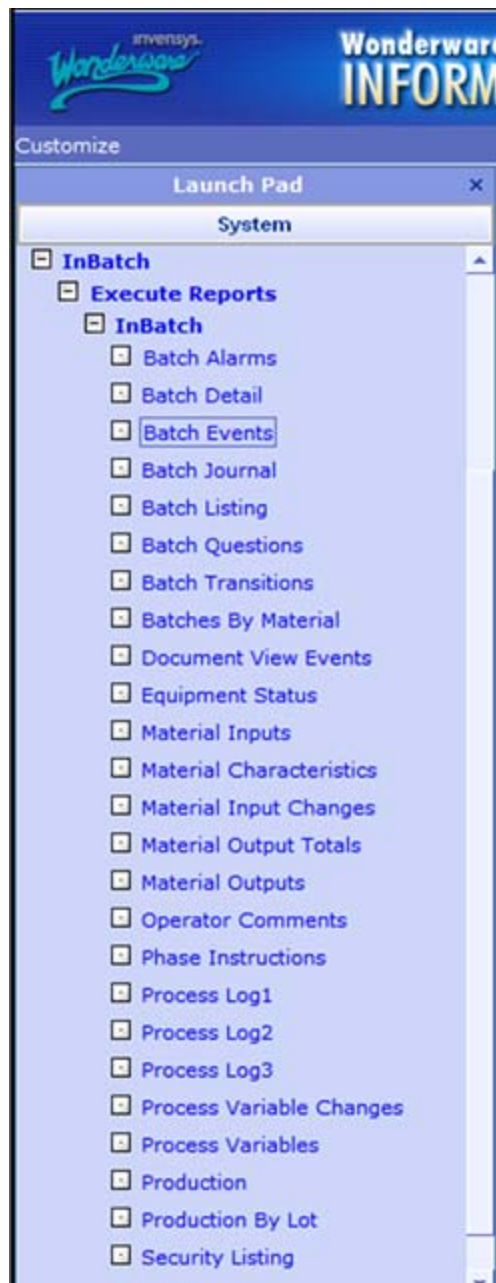


FIGURE 4: WIS BATCH REPORTING OPTIONS

InBatch 9.0 provides all reports that you might know from previous versions of InBatch. If you created custom reports through Crystal Reports there will be no issues in executing them against InBatch 9.0 since the underlying metadata structure has not changed.

However, the one fundamental change is that the trigger that creates a report is no longer sent to Crystal Reports but to Information Server. This means that any custom reports that were triggered automatically will have to be re-built using Microsoft Reporting Services.

- While installing the InBatch Reporting Content the actual report source files (*.rdl) will be installed too. The default directory for these report files is **C:\Program Files\Wonderware\InBatch\Reporting Services** (Figure 5 below).

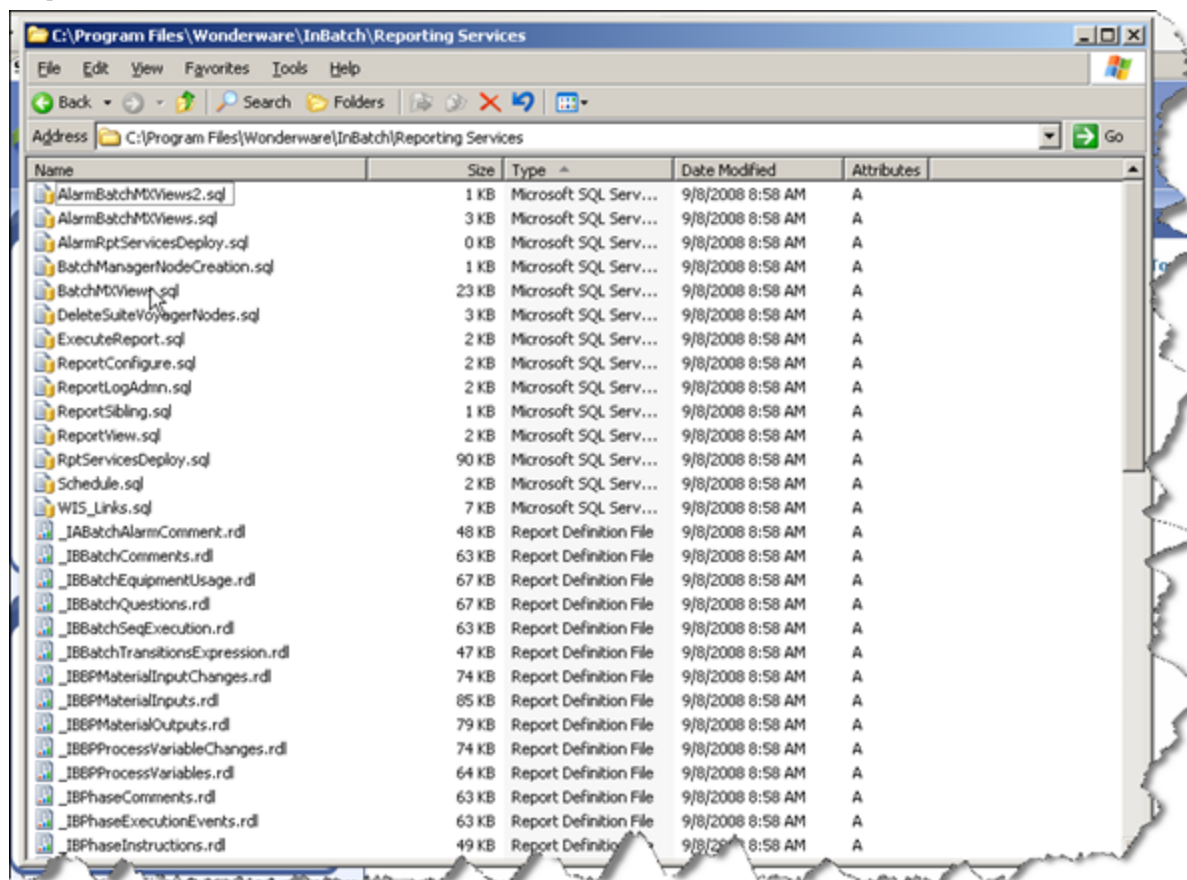


FIGURE 5: INBATCH'S *.RDL SOURCES

Editing and Modifying Existing Standard Reports

1. Start SQL Server Business Intelligence Development Studio by clicking **Start > All Programs > Microsoft SQL Server 2005 > SQL Server Business Intelligence Development Studio** (Figure 6 below).

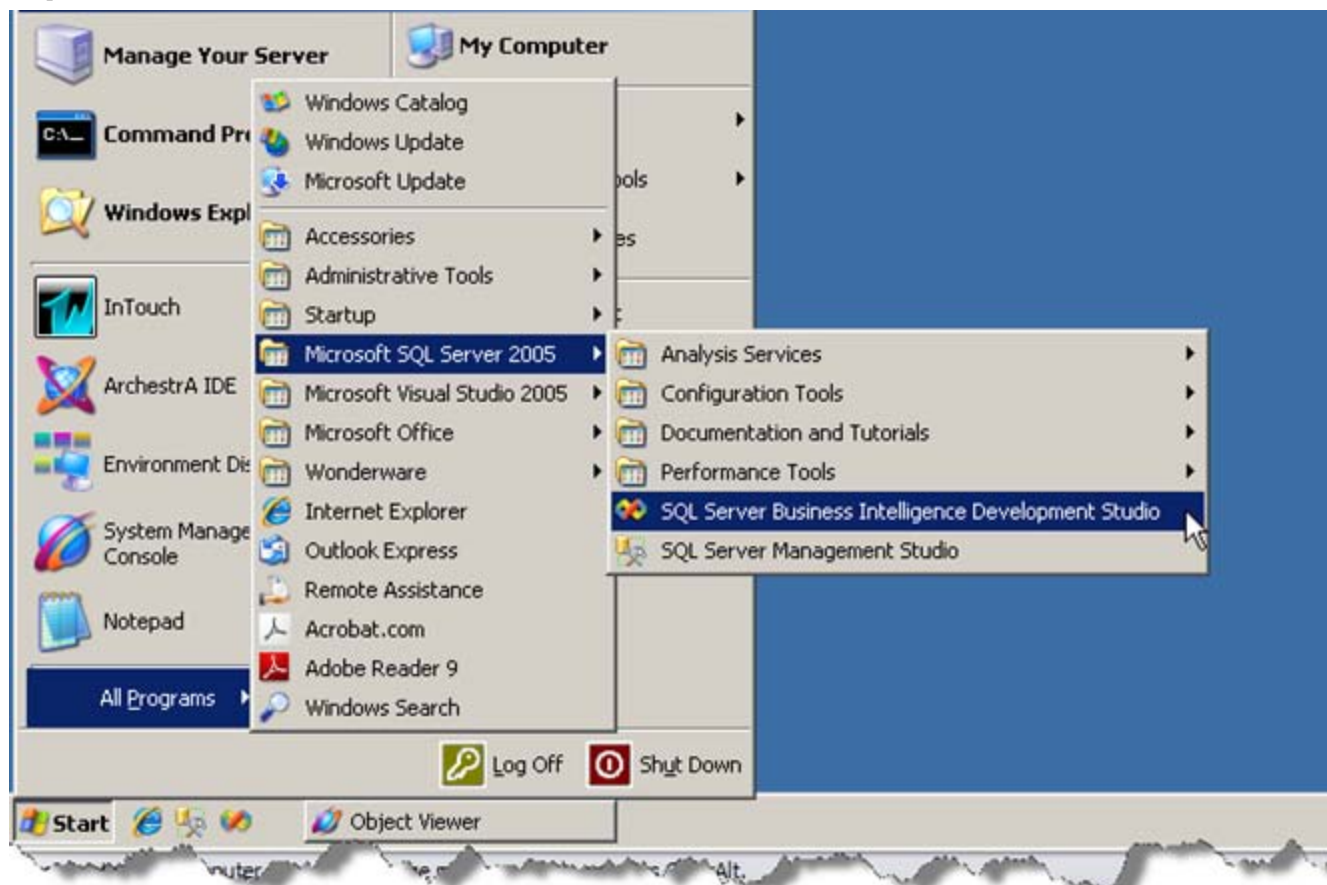


FIGURE 6: START SQL SERVER BUSINESS INTELLIGENCE DEVELOPMENT STUDIO

2. Within Visual Studio's IDE, create a New **Report Server Project** by pressing **Ctrl + Shift + N**, or click **File > New > Report Server Project**.

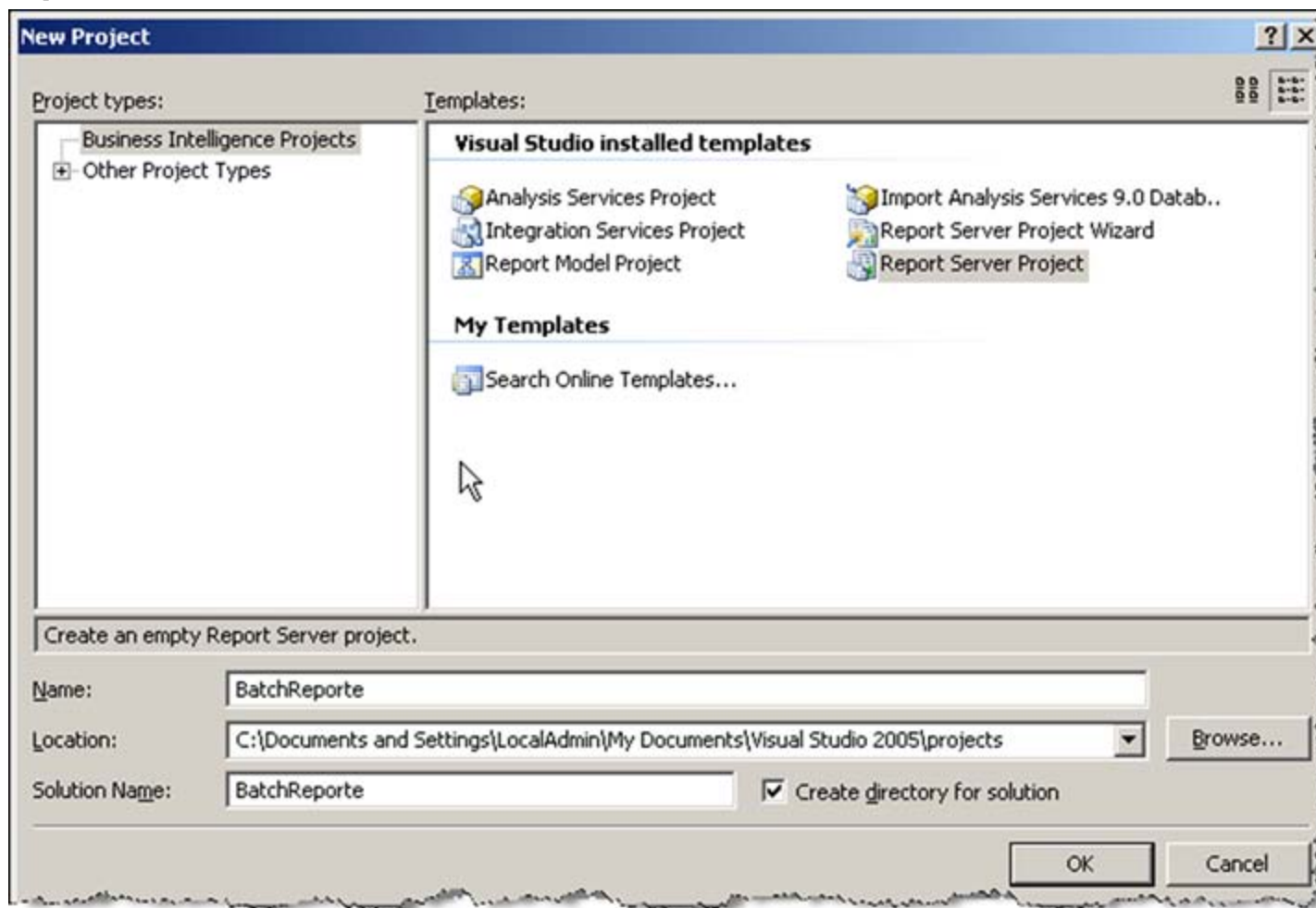


FIGURE 7: NEW VISUAL STUDIO REPORT SERVER PROJECT

3. In the Visual Studio IDE, right-click **Solution Explorer** and click **Shared Data Source** to create a new **Shared Data Source** called **aaReports**.
4. Click **Edit** in the Shared Data Source dialog box.
5. Configure the **Connection Properties** as in Figure 8:2 (below).

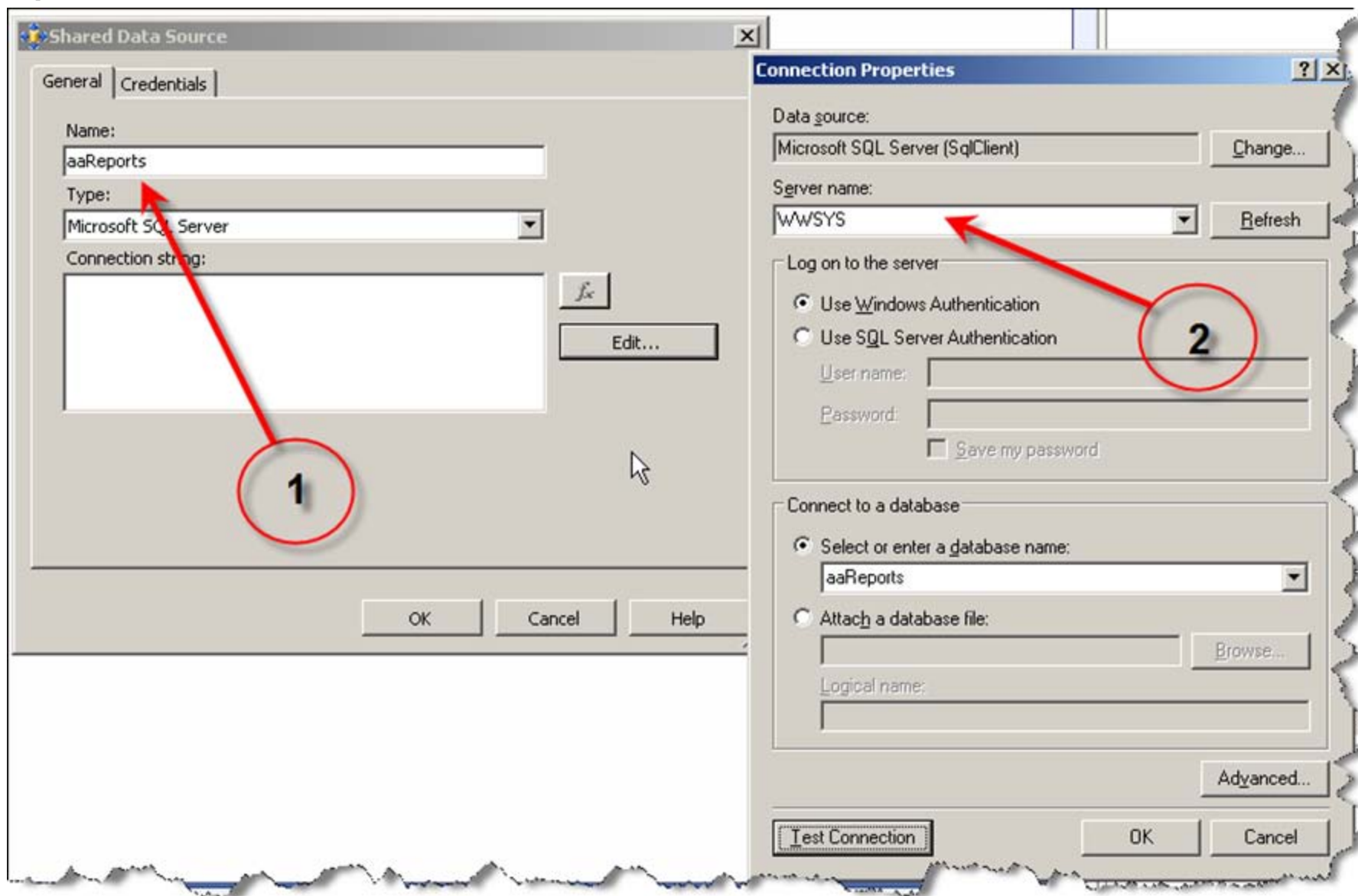


FIGURE 8: SHARED DATA SOURCE AND CONNECTION PROPERTIES

The Shared Data Source name must be **aaReports** for existing reports.

IMPORTANT: DO NOT SELECT BatchHistory as the database – select **aaReports**. For editing existing reports, the shared data source must be named **aaReports** and point to the **aaReports** Database -- otherwise the report won't work.

Import the Existing Report into Your Project

1. In Visual Studio IDE right-click **Solution Explorer** and click **Reports > Add > Existing Item**.

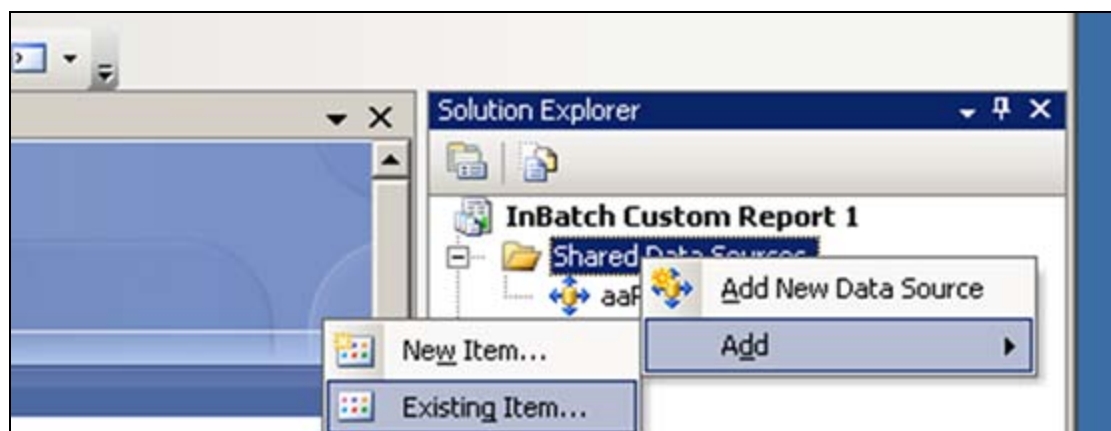


FIGURE 9: ADD EXISTING ITEM

2. Browse to the directory in which the source files (*.rdl) are located and select the report that you want to change.

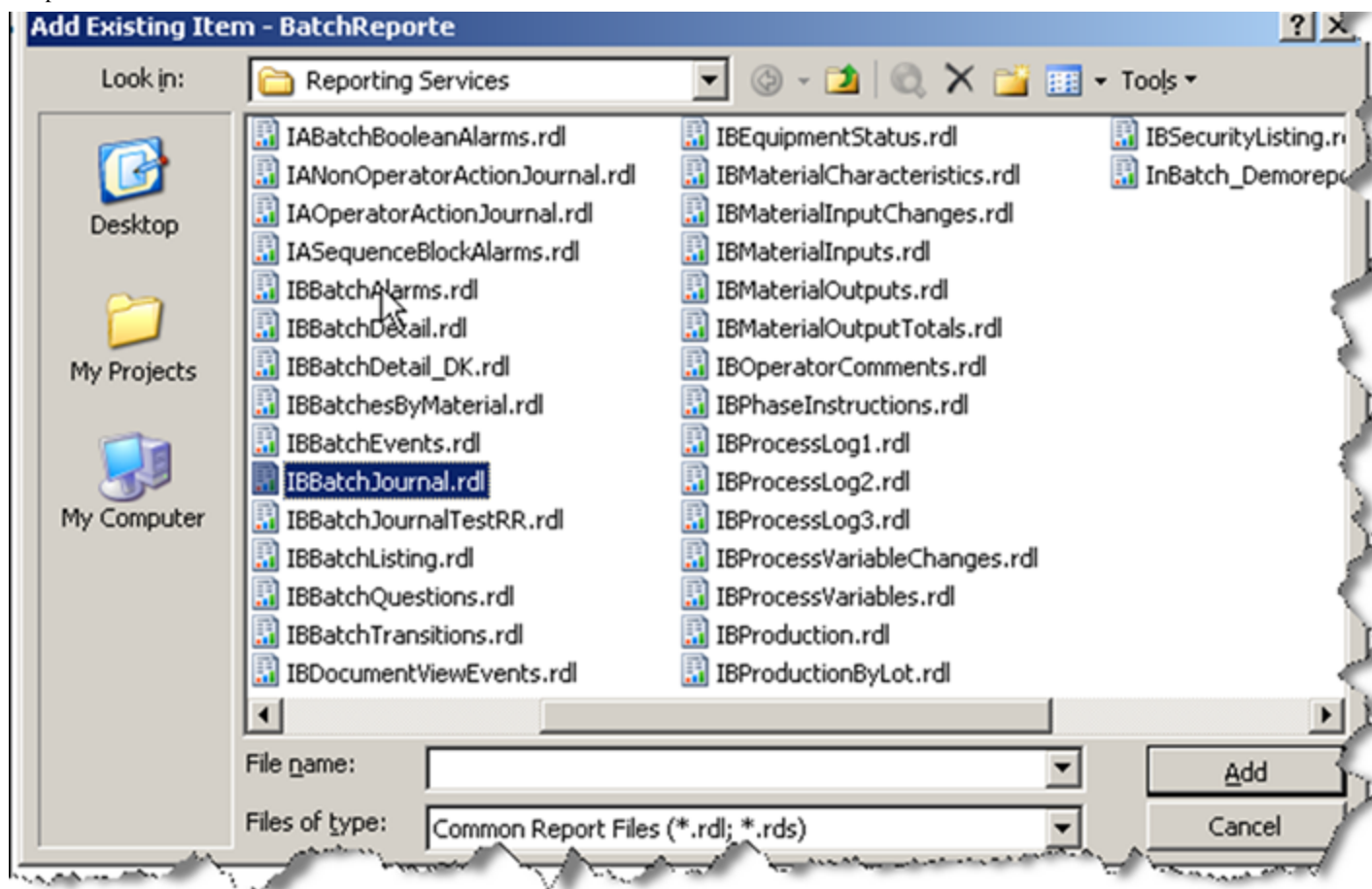


FIGURE 10: LOCATE THE TARGET REPORT

3. Apply modifications as desired.

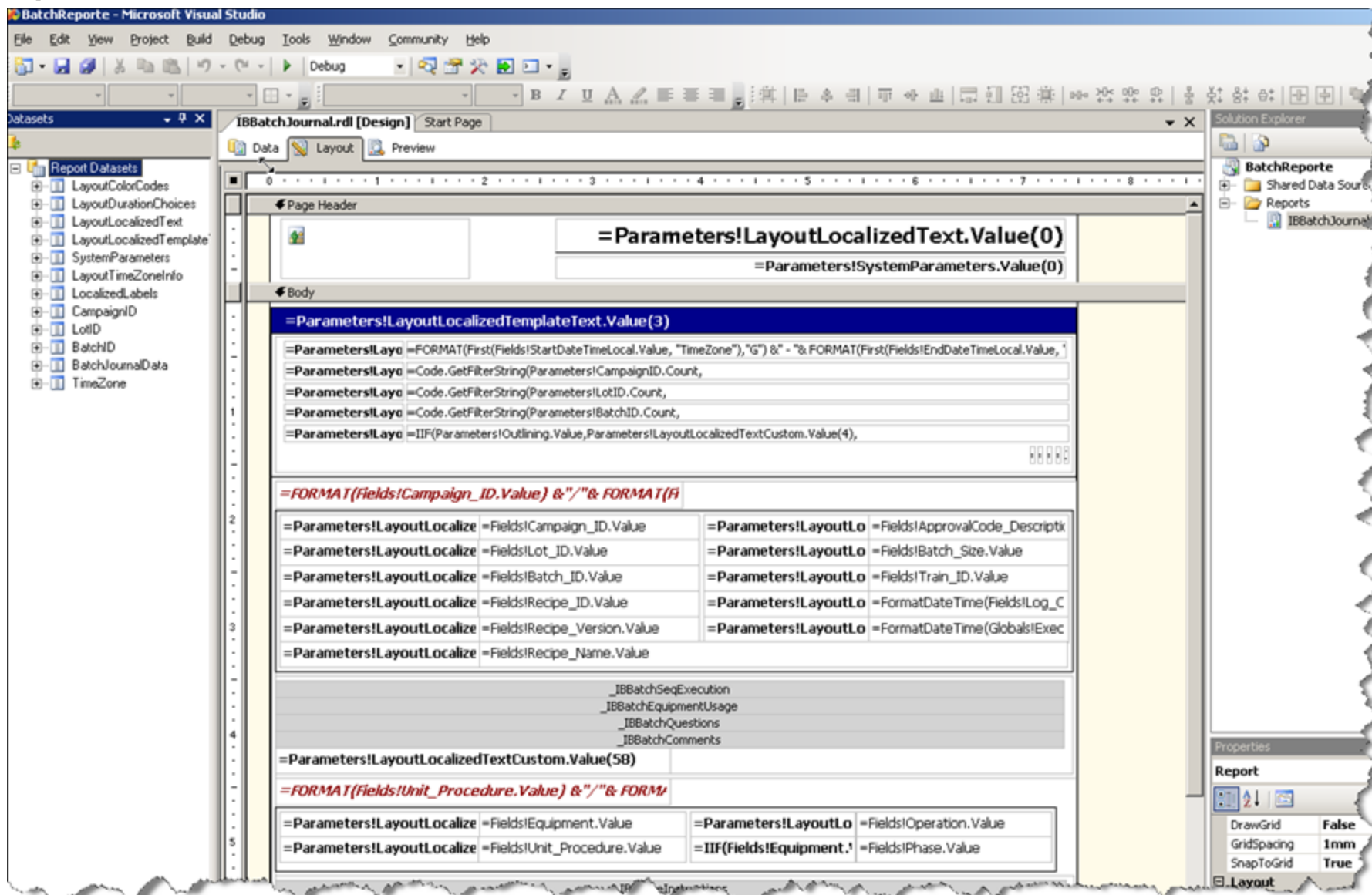


FIGURE 11: CHANGING THE REPORT

Important: To make sure that the *current* existing report remains unchanged in your system, it is strongly recommended to use a different name for your new report instance. For example, renaming **IBBatchJournal.rdl** to **MyBatchJournal.rdl** is strongly advised (Figure 12 below).

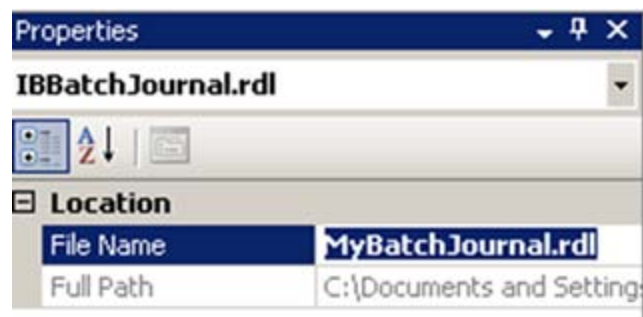
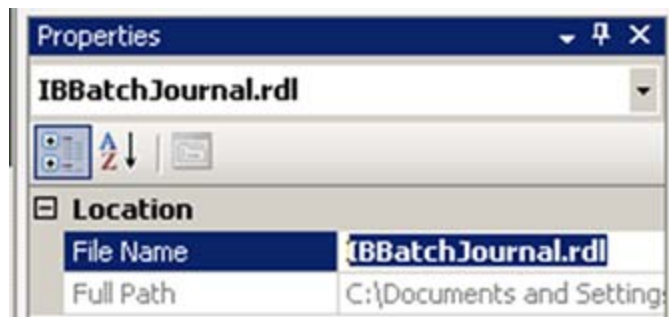


FIGURE 12: RENAMING YOUR FILE INSTANCE

Once finished with editing the report, and saving the report as part of your project, you need to copy the new report.rdl file into the InBatch Reporting Content location you chose.

Example: Changing the Existing Report Header

Once you performed the steps above, you should see the report within Visual Studio. For this example, we can change out the existing image called **SiteLogo** (Figure 13 below).

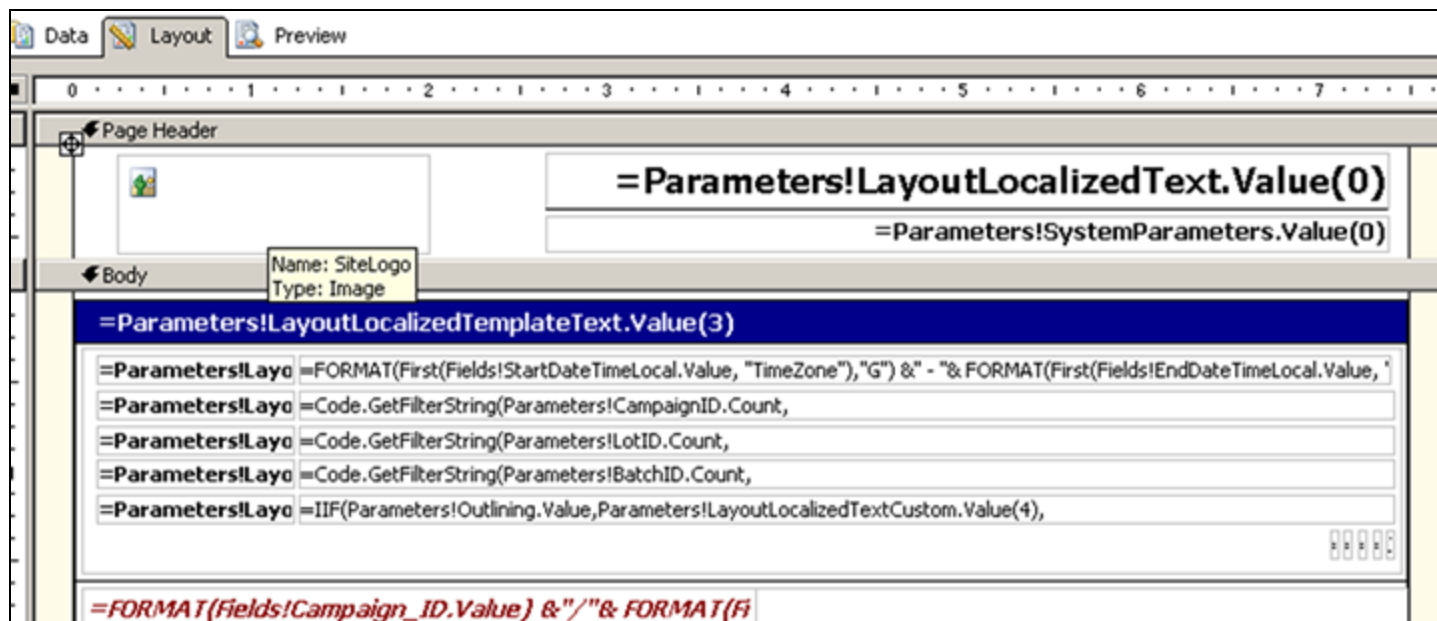


FIGURE 13: CHANGE OUT SITELOGO IMAGE

1. Right-click the logo and click **Delete**.

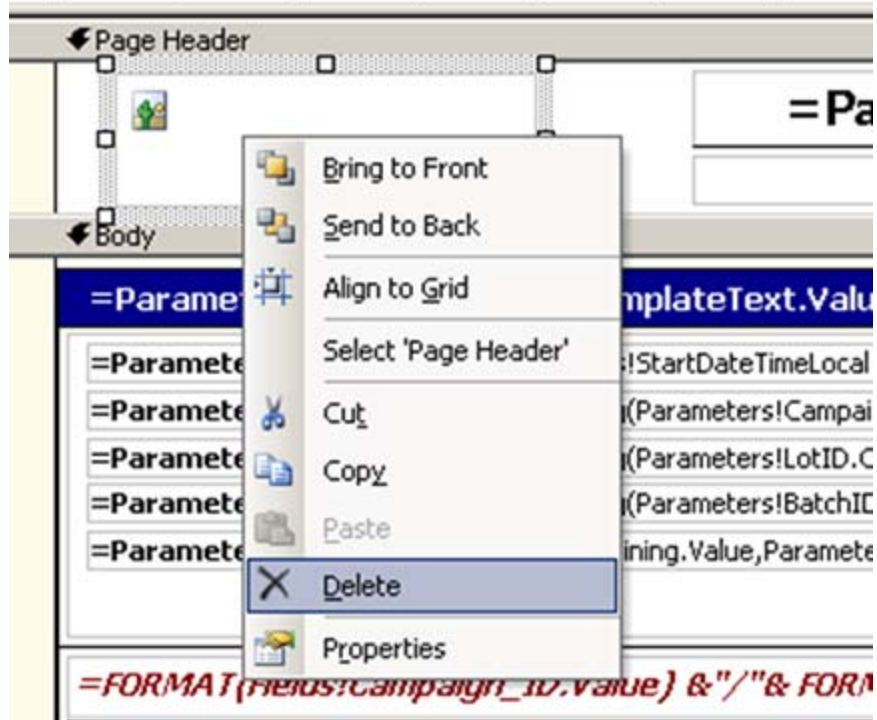


Figure 14: Delete the Image Used

for the logo.

2. Open the Toolbox.

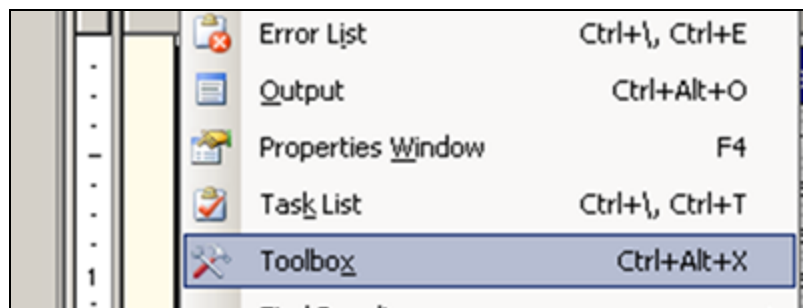


FIGURE 15: OPEN THE TOOLBOX

3. Add an image from the Report Items list.

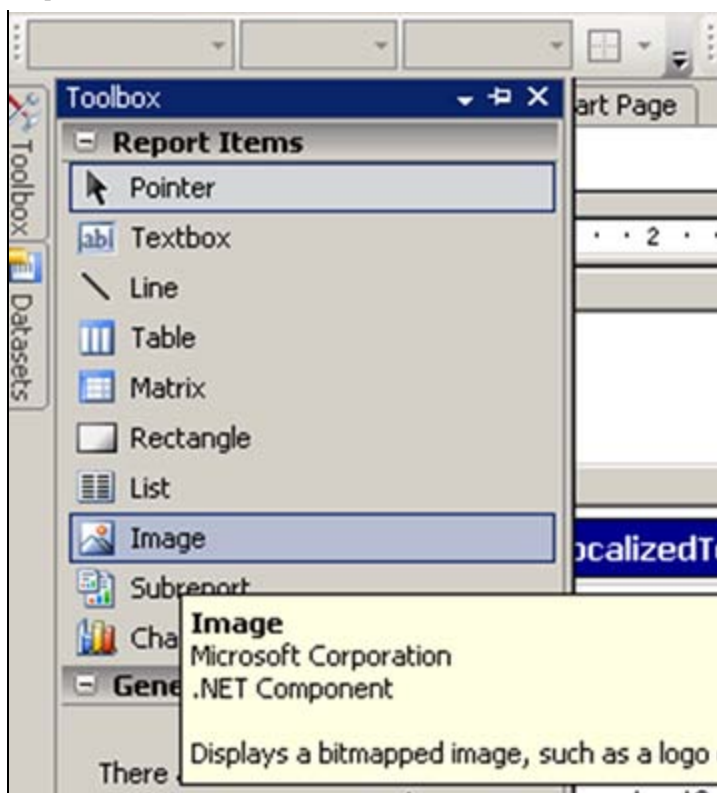


FIGURE 16: ADD AN IMAGE TO THE REPORT

4. Choose the image you want to use in the new report.

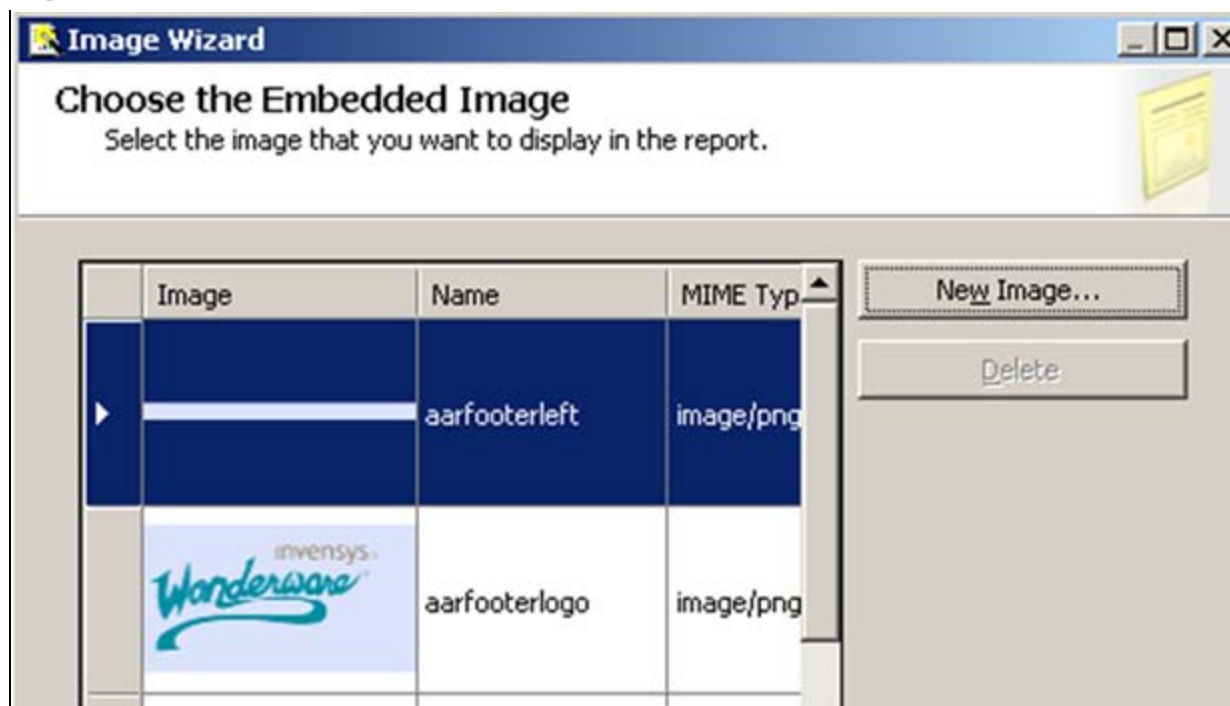
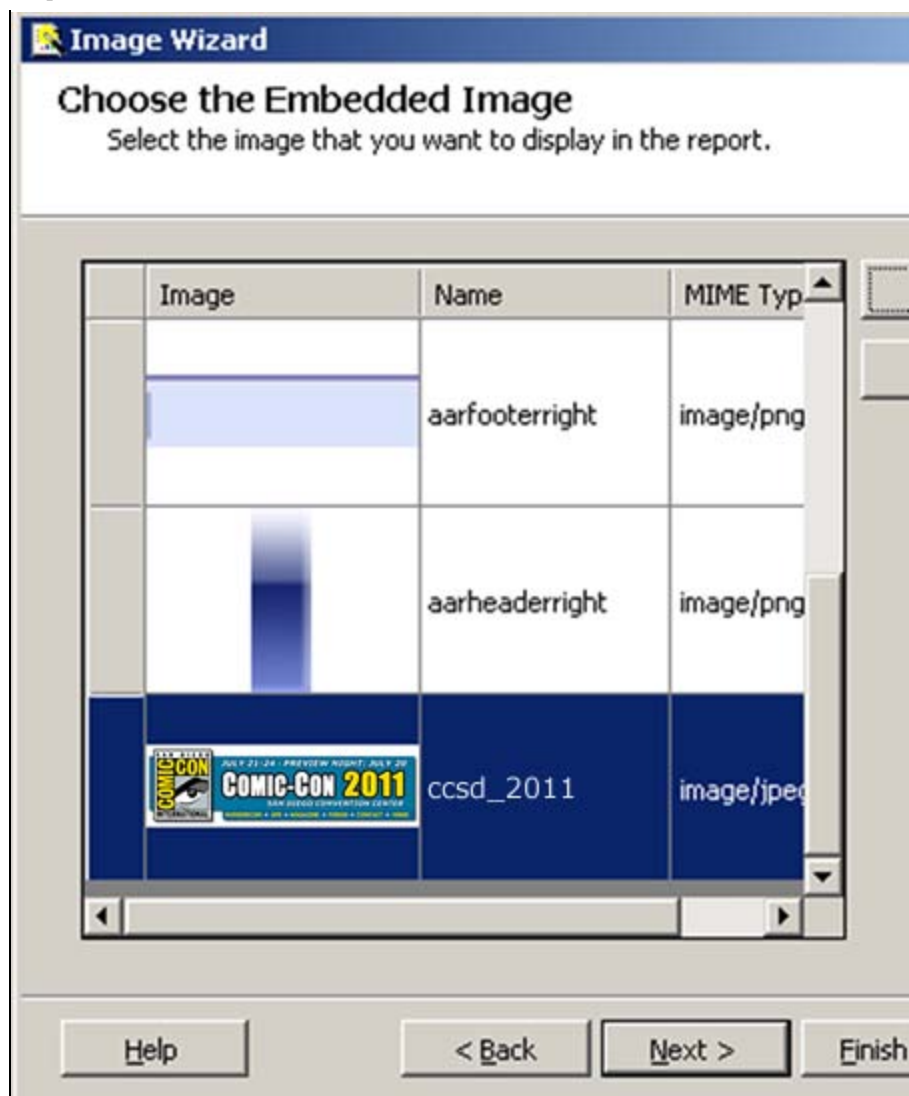


FIGURE 17: CHOOSE YOUR IMAGE

5. You should have your logo handy for inclusion.

**FIGURE 18: NEW IMAGE**

6. Arrange for the right appearance, and save the report.



FIGURE 19: SAVE THE MODIFIED REPORT

Publishing the Modified Report on Wonderware Information Server

You are now ready to deploy the report onto Wonderware Information Server. The **Deploy ArcestrA Reports** utility provides the means to publish ArcestrA Reports at any time.

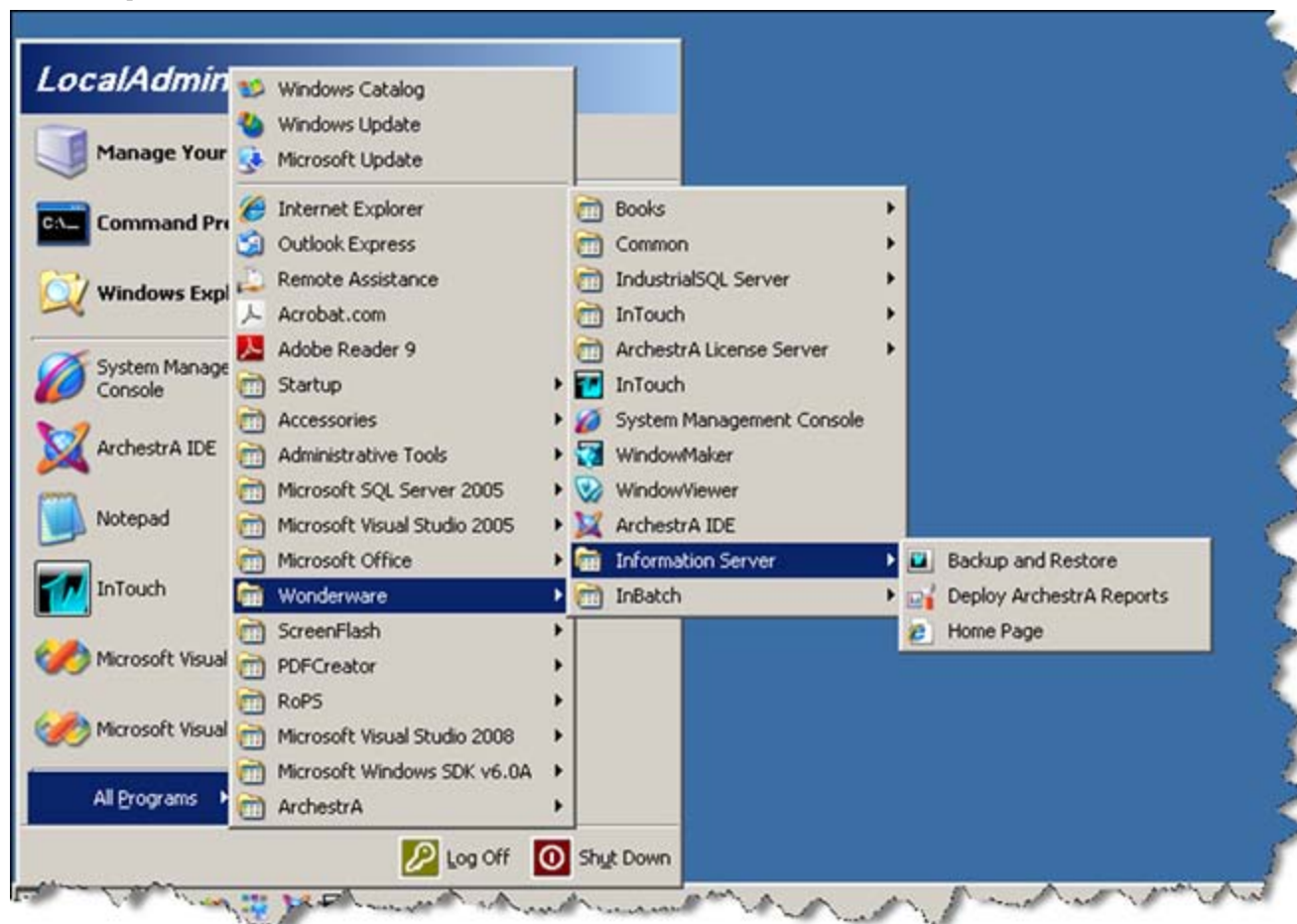


FIGURE 20: DEPLOY ARCHESTR A REPORTS UTILITY

To prepare for the deployment you need to manually adjust the report services configuration.

The InBatch Reporting Content location contains the configuration file. Use Notepad (or any more powerful XML editor) to edit **RptServicesConfig.xml**.

1. For each report add one separate XML Element:

```
<Report name= "<MyReport Name>" file="< name of the file that contains your report>" description="<description for your report"/>
```

For example:

```
<Report name= "Personal Journal Report" file="MyBatchJournal.rdl" description="This is my first modified batch report"/>
```

Now you can run **Deploy ArchestrA Reports**. The utility reads the modified XML configuration and updates Information Server's Report Database. All reports listed in the configuration file are published under **InBatch/ Execute Reports**.

1. Start **Deploy ArchestrA Reports**.
2. Click the **Existing Shared Data Source** option. This refers to the aaReports you created in a previous step.

3. Select **Production** from the **Existing SDS Type** drop-down list.
4. Browse for the edited Configuration file.
5. Click the **Deploy** button (Figure 21 below).

Archestra Reports Database Configuration

aaReports Database
Deploy Reports

Deploy Reports - Retrieve or configure shared data source

Existing Shared Data Source
 Create New Shared Data Source Type and Default Data Source

Existing SDS Type: Production
New SDS Type: [Empty]

Default Data Source

Data Source Name: InBatchSDS
Server Name: wWSYS
Database Name: BatchHistory

Windows Authentication
 SQL Server Authentication

Login Name: [Empty]
Password: [Empty]

Page Transform: [Empty]

Configuration File: C:\Program Files\Wonderware\InBatch\Reporting Services\Rpt
Browse...
Deploy

FIGURE 21: DEPLOY REPORT TO WIS

After the deployment process is done, you see your report within Information Server. You might need to refresh your browser (press the F5 button).

The screenshot displays the Wonderware Information Server interface. The top header features the 'Wonderware' logo and the text 'Wonderware INFORMATION SERVER'. Below the header is a 'Customize' bar. The main content area is divided into a 'Launch Pad' on the left and a report viewer on the right. The 'Launch Pad' contains a 'System' menu with various options, including 'ccsd_2011' which is currently selected. The report viewer shows a banner for 'COMIC-CON 2011' and a 'Filter Criteria' section with the following details:

| Filter Criteria | |
|---------------------|---|
| Time Period: | 1/30/2009 09:44:26 - 4/30/2009 09:44:26 |
| CampaignID: | |
| LotID: | |
| BatchID: | |
| Outlining: | Collapsed |

Below the filter criteria, a report entry is shown for 'Wash/W/1' with the following details:

| | |
|------------------|----------|
| Campaign: | Wash |
| Lot: | W |
| Batch: | 1 |
| RecipeID: | CIPMixer |

FIGURE 22: DEPLOYED REPORT

Automated Generation of InBatch Custom Reports

Now we need to adjust Information Server's settings to allow the report triggered on a batch event or schedule.

The adjustments necessary are very similar to the ones discussed above. Instead of using **RptServicesConfig.xml** at the InBatch Reporting Content location, you must use the file that is located on your web server.

Use the **RptServicesConfig.xml** that is located at **C:\inetpub\wwwroot\Wonderware\InBatchReports\ReportConfig** (assuming a default installation) and add your report to the existing list.

Now you can use the same methods as for the standard reports to arrange for your report to be generated automatically (Figure 23 below).

The screenshot displays the 'Information Server' web interface. The left sidebar contains a navigation tree with categories like Administration, Documentation, InBatch Manager, and Table Weaver Manager. The 'InBatch Manager' > 'Reports' > 'Configuration' path is selected. The main content area shows the 'Report Config > Add Report' form.

| Add Report Config | |
|-------------------|--------------------------|
| Name | <input type="text"/> |
| Description | <input type="text"/> |
| Report Template | Batch Alarms |
| Output To Printer | <input type="checkbox"/> |
| Printer | _#VMwareVirtualPrinter |
| Output To File | <input type="checkbox"/> |
| Output Path | <input type="text"/> |
| Output Type | CSV |

Below the form is an 'Add Report' button and a 'Help' button.

FIGURE 23: ADD AUTOMATED REPORT GENERATION

D. Kozian

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