# P2000AE

Security Management System

Report Server Installation

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Johnson Controls

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This product complies with the requirements of the European Council Electromagnetic Compatibility directive 2004/108/EEC and the Low Voltage Directive 2006/95/EEC.

This equipment must not be modified for any reason and it must be installed as stated in the Manufacturer's instruction.

If this shipment (or any part thereof) is supplied as second-hand equipment, equipment for sale outside the European Economic Area or as spare parts for either a single unit or system, it is not covered by the Directives.

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## Chapter 1: Introduction

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# INTRODUCTION

The Report Server is a solution that allows you to run reports against a database saved on a designated Report Server without compromising the live server's functionality.

In the Report Server configuration, the live P2000AE site becomes the Source Server, and the subscribing system becomes the Destination Server (also called a Report Server). The Destination Server synchronizes its data with the Source Server. Database replication is implemented through the use of Microsoft SQL Server database technologies.

> **NOTE**
> *Throughout this manual the terms P2000AE and P2000 are used interchangeably.*

## ABOUT THIS MANUAL

This document is to be used as a supplement to the documentation provided with the P2000 and the Microsoft SQL Server. It outlines information concerning the Report Server as implemented with the P2000 system.

## MANUAL SUMMARY

- *Chapter 1: Introduction*, defines the key terms and conventions used throughout the manual, as well as provides introduction to the Report Server.

- *Chapter 2: Configuration*, contains instructions on setting up the Source Server the and the Destination Server.

- *Chapter 3: SSIS Scripts*, contains instructions on ow to loading and scheduling SSIS (SQL Server Integration Services) scripts.

### Technical Support

Technical assistance is provided to Johnson Controls authorized dealer representatives from 5 a.m. PT (Pacific Time) to 5 p.m. PT Monday through Friday. System users can get answers to operator questions by calling the local Johnson Controls Inc. sales/service office.

The authorized dealer representatives can also provide you with information on the maintenance contracts and the on-site field service.

## Qualification for Installation and Use

Implementation of the Report Server requires knowledge about the P2000 operations (such as database backup and restoration), Microsoft SQL Server, as well as advanced network skills.

## Note on Other Manufacturer's Documentation

*Johnson Controls* does not duplicate documentation of other equipment manufacturers. When necessary, as in some installation procedures, we will provide documentation that *supplements* other manufacturer's documentation. When unpacking your equipment, **keep all original manufacturer documentation for future reference**.

## Manual Conventions

The following items are used throughout this manual to indicate special circumstances, exceptions, important points regarding the equipment or personal safety, or to emphasize a particular point.

### NOTE
*Notes indicate important points or exceptions to the information provided in the main text.*
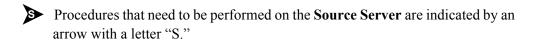
⚠ **CAUTION** Cautions remind you that certain actions, if not performed exactly as stated, can cause damage to equipment, security problems, or cause the system to operate incorrectly due to errors in system setup or programming.

⚡ **WARNING** Warnings indicate that the possibility of personal injury exists if an action or actions are not performed exactly as stated.

**S►** Procedures that need to be performed on the **Source Server** are indicated by an arrow with a letter "S."
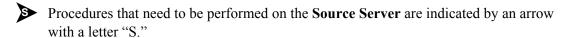
**D►** Procedures that need to be performed on the **Destination (Report) Server** are indicated by an arrow with a letter "D."

# CONFIGURATION

This section describes how to set up the live P2000 site to become a Source Server and how to configure the additional hardware to become a Destination Server.

To ensure correct installation, pay attention to the location where the procedures need to be performed:

**S** Procedures that need to be performed on the **Source Server** are indicated by an arrow with a letter "S."

**D** Procedures that need to be performed on the **Destination (Report) Server** are indicated by an arrow with a letter "D."

## SYSTEM REQUIREMENTS

A starting point for the configuration is the live P2000 server (Source Server) installed on a system using SQL Server 2005.

The additional hardware, which is to become the Report Server (Destination Server), should have the following software installed:

- SSIS (SQL Server Integration Services)
- SQL Server Agent
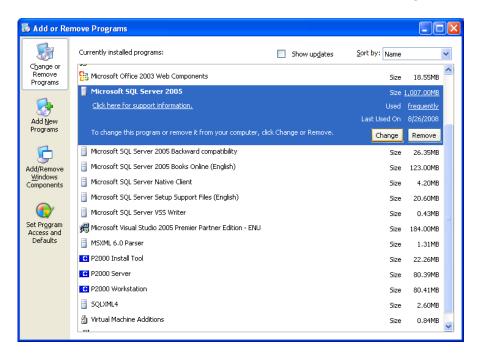
## SSIS AND SQL SERVER AGENT SETUP

The SSIS (SQL Server Integration Services) and the SQL Server Agent must be configured to automatically start when Windows boots up. The SQL Server Agent on the Destination Server must be running.

**D** **To verify that SSIS is installed:**
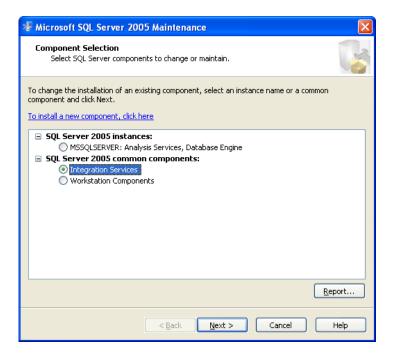
1. Go to **Start**>**Control Panel**>**Add or Remove Programs**.

2.  Scroll down to **Microsoft SQL Server 2005** and click on the **Change** icon.



3.  Verify that the **Integration Services** component is on the list of installed features.



4.  If the Integration Services are installed, close the windows. If the Integration Services are not installed, keep the window open and follow the procedure below.
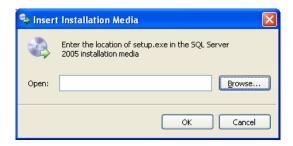
▷ **To install SSIS:**

1.  Click the **To install a new component, click here** link and follow the instructions.

2.  When prompted, insert the SQL Server 2005 installation media.

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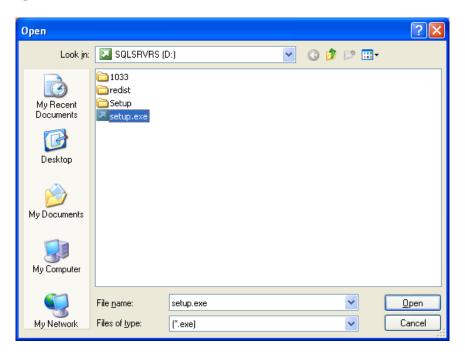
**NOTE**

*You must use the same SQL Server 2005 installation media as was used to install SQL Server 2005 on this server.*

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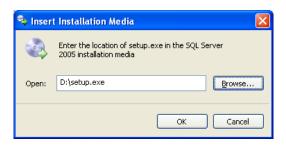
3.  Click the **Browse** button.
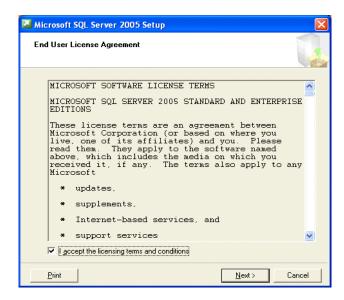


4.  Navigate to the **Setup.exe** file on the installation media, select it, and click **Open**.
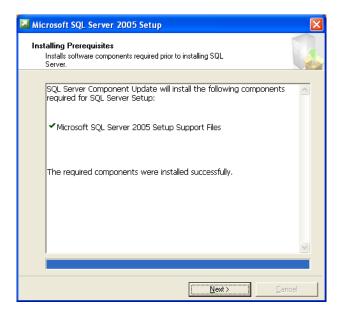
5.  In the Insert Installation media window and click **OK** to continue.

6.  Select the check box **I accept the licensing terms and conditions**; click **Next**.
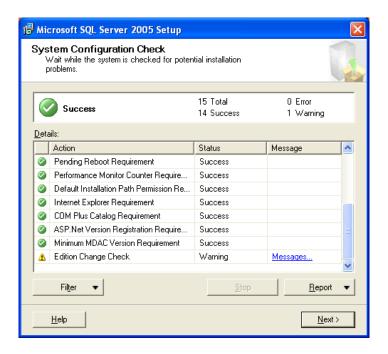
7.  The screen will acknowledge the installation of setup support files. Click **Next** to continue.

8.  The Microsoft SQL Server Installation Wizard starts; click **Next** to continue.



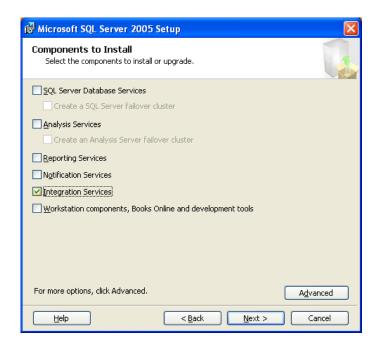9.  The screen will acknowledge a system configuration check. Click **Next** to continue.

10. Enter registration information (or keep the default values) and click **Next** to continue.



11. In the list of components select **Integration Services** and click **Next** to continue.
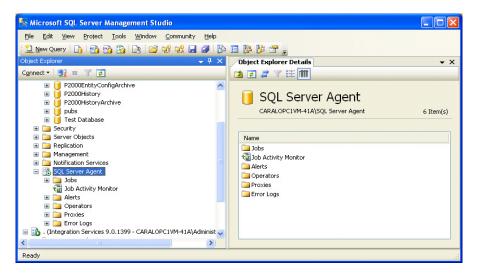


12. Follow the remaining prompts to complete the installation.

▷ **To verify that the SQL Server Agent is started:**

1. Open the Microsoft SQL Management Studio.

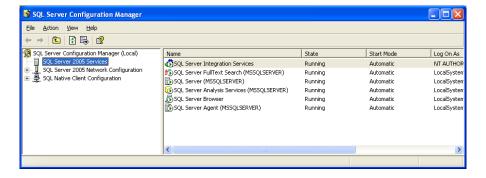2. Verify that the **SQL Server Agent** icon in the navigation pane is displaying a green "Running" arrow.

   If the icon is displaying a red "Stop" arrow, right-click on the icon and select **Start**.
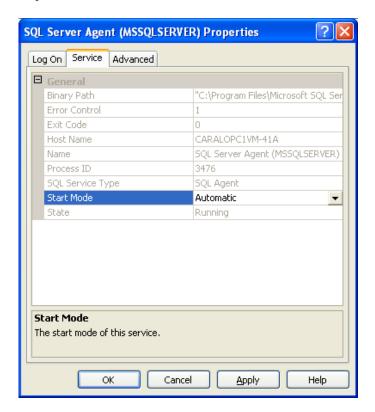


3. Close the SQL Server Configuration Manager window.

▷ **To verify autostart settings for SSIS and SQL Server Agent:**

1. Go to **Start**> **All Programs**>**Microsoft SQL Server 2005**>**Configuration Tools**> **SQL Server Configuration Manager**.

2. Verify that the **Start Mode** value for both the SQL Server Integration Services and the SQL Server Agent is set to **Automatic**.

3.  If it is not set properly, double-click on the item to open the corresponding Properties window, select **Automatic** for **Start Mode**, and click **OK**.



4.  Close the SQL Server Configuration Manager window.

## SETTING UP THE OPERATING SYSTEM AND DATABASE SERVER

▷  **To set up the operating system and database engine:**

1.  Create windows user groups for "Pegasys Users" and "Pegasys Administrators."

▷  **To prepare the databases:**

1.  Back up the following P2000 databases:
    ■  P2000EntityConfig
    ■  P2000History
    ■  P2000SCT

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**NOTE**
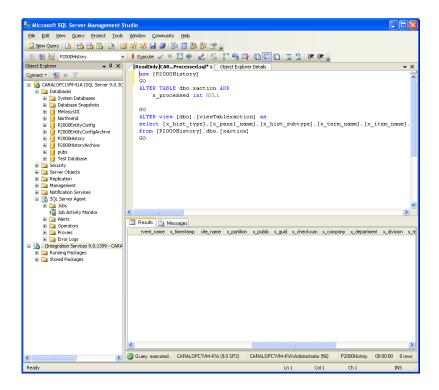
*Before proceeding, stop the P2000 services on the Destination Server.*

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➤ **To execute the XAction_X_Processed.sql script:**

1. Open the Microsoft Server SQL Management Studio.

2. Go to **File**>**Open**, then highlight and open the **XAction_X_Processed.sql** script.

3. In the Microsoft Server SQL Management Studio window, set the database to **P2000 History**.

   See the section below for the full script:

   ```
   use [P2000History]
   GO
   ALTER TABLE dbo.xaction ADD
        x_processed int NULL
   GO
   ALTER view [dbo].[viewTablexaction] as
   select
   [x_hist_type],[x_panel_name],[x_hist_subtype],[x_term_name]
   ,[x_item_name],[x_badge_number],[x_fname],[x_mname],[x_lnam
   e],[x_timed_overrd],[x_issue_level],[x_fac_code],[x_event_n
   ame],[x_timestamp],[site_name],[x_partition],[x_public],[x_
   guid],[x_checksum],[x_company],[x_department],[x_division],
   [x_team],[x_description],[x_src_msg_guid],[x_entity_guid],[
   x_item_guid],[x_entity_foreignsystemkey],[x_processed]
   from [P2000History].dbo.[xaction]
   GO
   ```
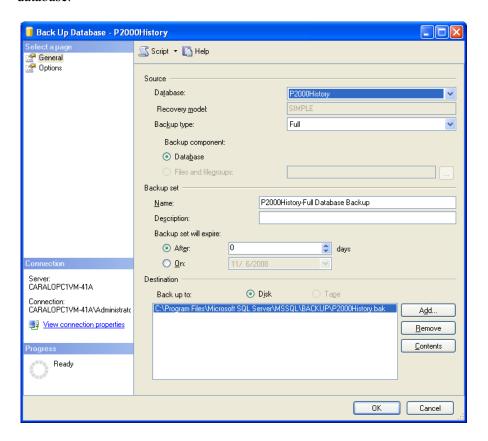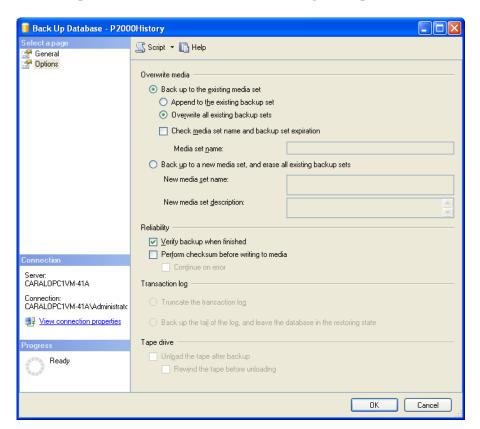


4. Parse and execute the query.

➤ **To create a new backup of the P2000History database:**

1.  In the Microsoft Server SQL Management Studio window, right-click on **P2000History** and go to **Tasks**>**Backup**.

2.  In the Back Up Database - P2000History window make selections appropriate for your system to create a new backup of the P2000History database.

3. Click on **Options** and select **Overwrite all existing backup sets**. Click **OK**.
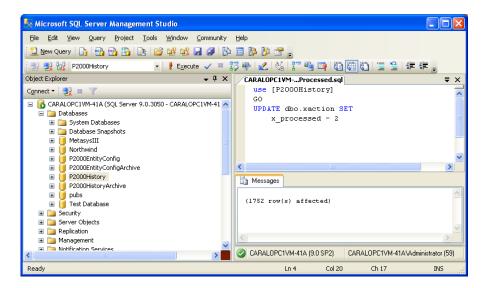


> ⮞ **To execute the MarkXactionProcessed.sql script:**

1. Open the Microsoft Server SQL Management Studio.

2. Go to **File**>**Open**, then highlight and open the **MarkXactionProcessed.sql** script.

   See the section below for the full script:

   ```
   use [P2000History]
   GO
   UPDATE dbo.xaction SET
       x_processed = 2
   ```

3. In the Microsoft Server SQL Management Studio window, set the database to **P2000 History**.
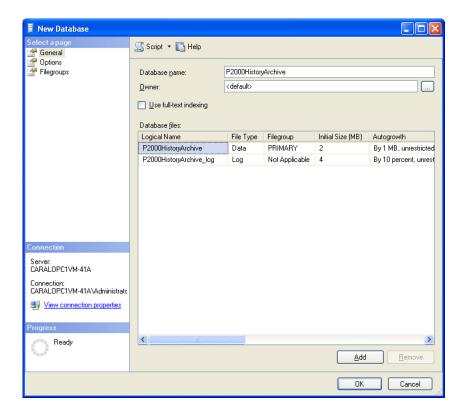
4.  Parse and execute the query. The process may take several minutes to complete.

▷ **To create P2000HistoryArchive database (optional):**

1.  If the P2000HistoryArchive database does not yet exist on this server, you need to create it. To do so, in the Microsoft Server SQL Management Studio window right-click on **Databases** and select **New Database**.
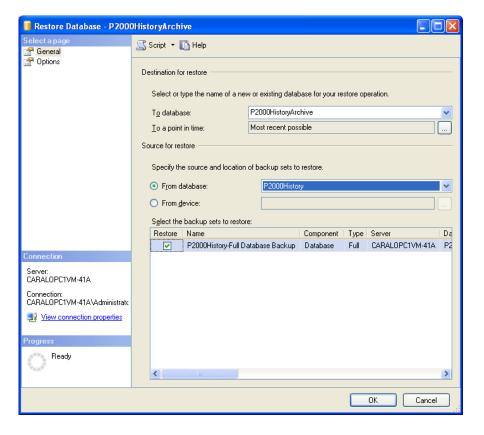
2.  Make selections for the new database and click **OK**.

> **To create P2000HistoryArchive database (optional):**

1. If the P2000EntityConfigArchive database does not yet exist on this server, you need to create it. To do so, in the Microsoft Server SQL Management Studio window right-click on **Databases** and select **New Database**.

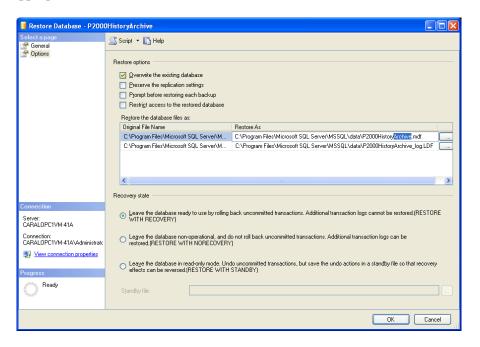2. In the New Database window make selections for the new database and click **OK**.

> **To restore the P2000History database:**

1. Restore the P2000History database (the database that was backed up on the Source Server according to procedure on page 2-10) to the created database P2000HistoryArchive. To do so, right-click on **P2000HistoryArchive** and go to **Tasks**>**Restore**>**Database**.

2. In the Restore Database - P2000HistoryArchive window click on **General** in the left window pane and make appropriate selections.

3.  Click on **Options** in the left window pane and select the **Overwrite the existing database** check box. Under **Restore the database files as** make appropriate selection and click **OK**.



Before proceeding, set the appropriate database access rights for the user groups created on the Destination Server, as necessary.

# SSIS SCRIPTS

This section describes how to load and schedule SSIS (SQL Server Integration Services) Scripts on the Destination Server.

## SETTING UP SUBSCRIPTION AND P2000 UTILITY ARCHIVE

Before proceeding, set up the subscription for the P2000EntityConfigArchive on the Destination Server.

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**NOTE**

*This procedure must be executed on the server where the scripts are to be installed, which is the Destination Server.*
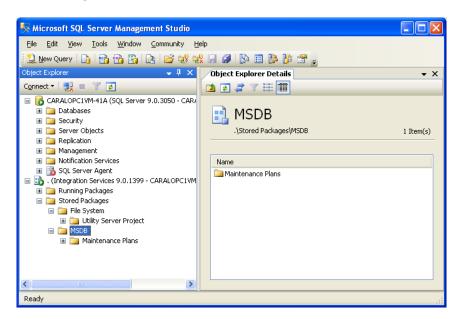
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## LOADING AND SCHEDULING SSIS SCRIPTS

▷ **To load SSIS scripts:**

1. Navigate to the folder containing the following Report Server SSIS scripts and make a note of their location (if necessary, copy the scripts to the Destination Server):

   - AlarmHistoryXferToReportServer.dtsx

   - AuditXferToReportServer.dtsx

   - XactionXferToReportServer.dtsx

2. In the Microsoft SQL Server Management Studio, go to **File**>**Connect Object Explorer** to connect to the SSIS server.

3. In the Connect to Server window, set the **Server type** to "Integration Services" and set the **Server name** to the local server by using a period "."
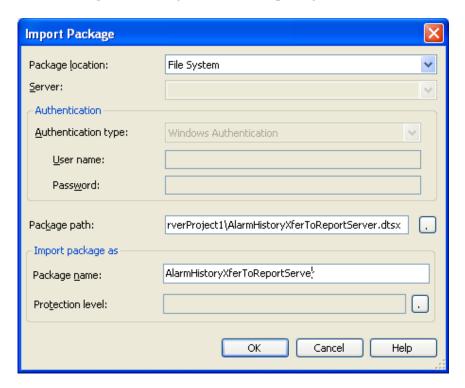


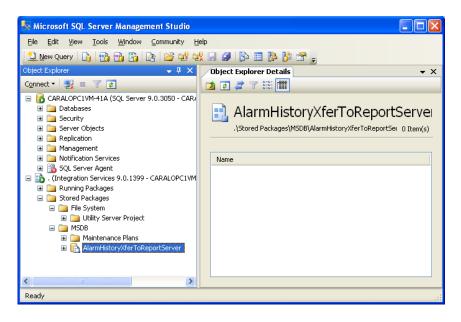4. Open the SQL Server Management Studio and navigate to the **MSDB** folder under **Integration Services**.



5. Right-click on **MSDB** and click **Import Package**, using the guide below for specific packages:

| Package Name | Description |
|---|---|
| AlarmHistoryXferToReportServer.dtsx | Copies and maintains history of Alarm History and Alarm Response data. |
| AuditXferToReportServer.dtsx | Copies and maintains history of Audit data. |
| XactionXferToReportServer.dtsx | Copies and maintains history of Transaction History data. |

6. For each package:

■ Under **Package Location** select **File System**.

■ Under **Package Path** navigate to package to be installed and select it (e.g. AlarmHistoryXferToReportServer.dtsx).
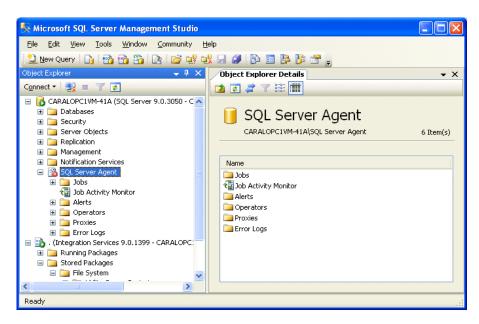
■ Under **Package Name** assign a name to the package.
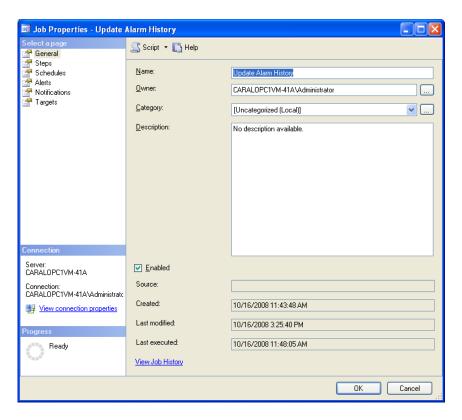


■ Verify that the package has been added.

▷ **To schedule jobs:**

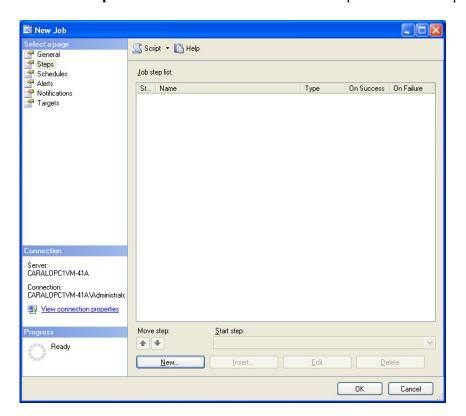1. In the Microsoft SQL Server Management Studio, navigate to and expand the **SQL Server Agent** folder.



2. Right-click on **Jobs** and select **New Job**.

3. In the New Job window, under the **General** category, assign a name for the **Job** where we will be scheduling the individual scripts to run. Verify that the owner is a valid account. Refer to the table below for recommended job names:

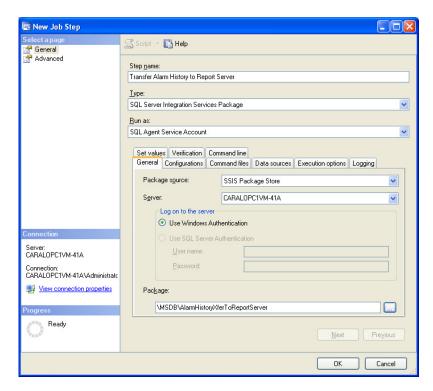| Package Name | Job Name |
| --- | --- |
| AlarmHistoryXferToReportServer.dtsx | Update Alarm History Data |
| AuditXferToReportServer.dtsx | Update Audit Data |
| XactionXferToReportServer.dtsx | Update Transaction History Data |

4. Select the **Steps** tab. Click the **New** button to add a script to the list of steps.
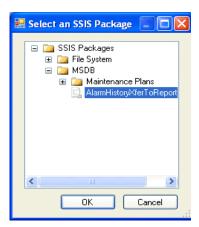
5. Perform the following:

- Under **Step Name** assign a name to the step.
- Under **Type** select **SQL Server Integration Services Package**.
- Under **Run As** select **SQL Agent Service Account**.

6. Select the **General** tab and perform the following:

- Select the **Package Source** as **SSIS Package Store**.
- Select the correct server name under which the SSIS package is stored (you may use a period "." to denote the local server).
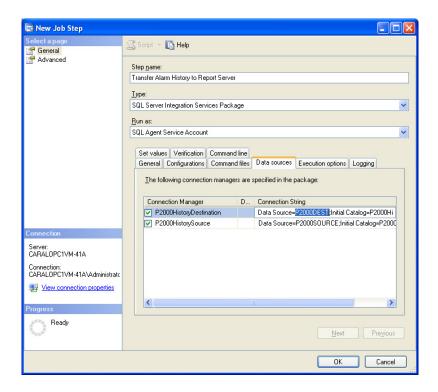


- In the Select an SSIS Package window go to **SSIS Packages**>**MSDB** and select the appropriate package (in this example, "AlarmHistoryXferToReportServer.dtsx").

7. Select the **Data Sources** tab and perform the following:

   ■ Assign correct database names to the **Data Sources** value in the Connection string (replace the default "."). You may use a period "." to denote the local server. Pay particular attention to assigning the correct database server names for the Source database and the Destination database.



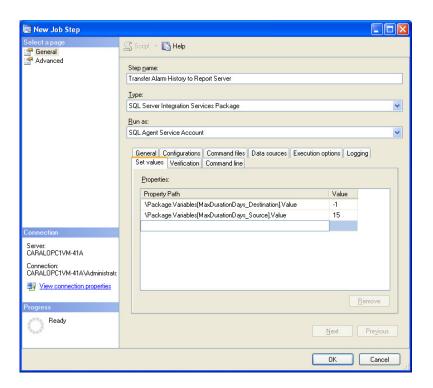8. Click the **Set Values** tab and define the parameters used in this script.

   ```
   \Package.Variables[MaxDurationDays_Destination].Value
   \Package.Variables[MaxDurationDays_Source].Value
   ```

   Assign the appropriate value for each paramenter. The value denotes the number of days that history data is kept for both the Source and Destination Servers respectively:

   -1 denotes that history data will be kept indefinitely

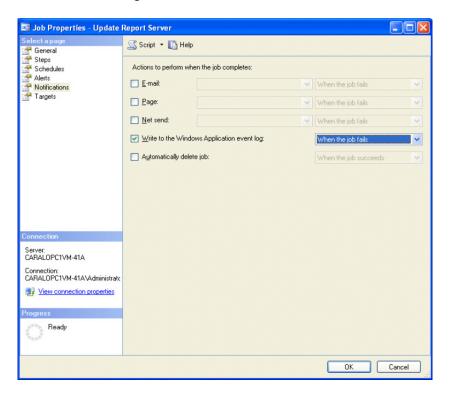   0 through ### are integer values denoting the number of days to keep data
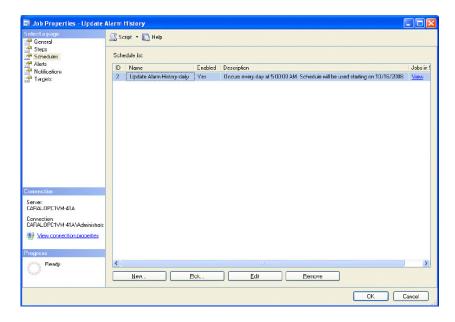
9.  Click **OK** to save the "New Job Step."

▷ **To set up notifications for failed jobs:**

1.  Click on the **Notifications** to open the Notifications page and define Windows Event Log notification.
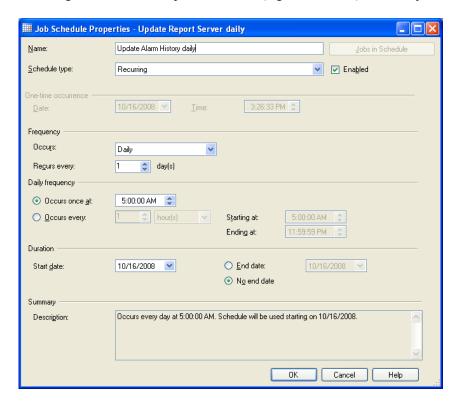
**To set up Job schedule:**

1. In the Job Properties window click on **Schedules.**

2. Click the **New** button to add a schedule.



3. In the Job Schedule Properties page, define a schedule for the job to run the script. Be sure to schedule each subsequent job for a different start time, allowing for a reasonable period of time (e.g. 30 minutes) between jobs.
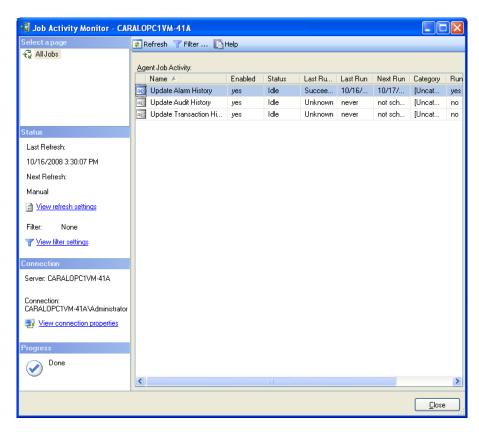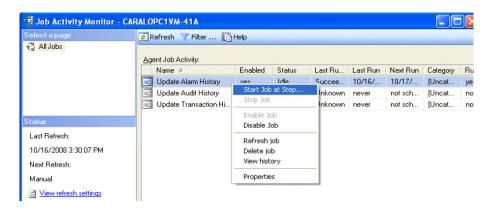
> 4. Click **OK** to save the job.

Repeat the above procedures starting with "To schedule jobs:" on page 3-4 to add subsequent jobs for the individual desired scripts.
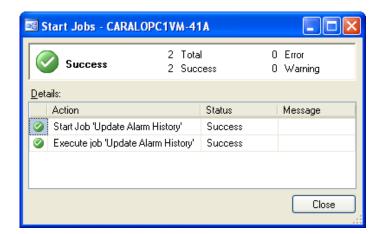
▷ **To verify a job:**

> 1. Launch the Job Activity Monitor (double-click on **Job Activity Monitor** under the **Jobs** folder).



> 2. Right-click on the job and click **Start job at step** to launch the job.

3.  Verify that the job is running correctly.



Use the procedure above to verify all scheduled jobs.