

AVEVA

Batch Management

Installation Guide

July 2019



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Contact Information

AVEVA Group plc
High Cross
Madingley Road
Cambridge
CB3 0HB. UK

<https://sw.aveva.com/>

For information on how to contact sales, customer training, and technical support, see <https://sw.aveva.com/contact>.

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CHAPTER 1

Welcome

The *Batch Management Installation Guide* describes the installation and configuration options for Batch Management components — Server, Remote Development Client, Remote Runtime Client, History Server, Reporting Content, Components for ArchedrA IDE, and Documentation. It also explains the process for upgrading the Batch Management product from an earlier version and uninstalling the Batch Management product.

In This Chapter

Documentation Conventions 5

Documentation Conventions

This documentation uses the following conventions:

Convention	Used for
Initial Capitals	Paths and file names.
Bold	Menus, commands, dialog box names, and dialog box options.
Monospace	Code samples and display text.

CHAPTER 2

Introduction

This section describes the Batch Management features, prerequisites, and requirements for installing Batch Management product.

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About Batch Management Features

The Batch Management installation program allows you to install some of the features of the system separately. You can select the following features during the Batch Management installation:

- Batch Management Server
- Batch Management Remote Development Client
- Batch Management Remote Run time Client
- Batch Management History Server
- Batch Management Reporting Content
- Batch Management Components for Archedra IDE
- Batch Management Documentation

The following table shows Batch Management features of previous versions and the corresponding Batch Management 2017 Update 1 features:

Previous Feature List	New Feature List
InBatch Server - I/A Components for Batch Server	Batch Management Server - I/A Component Support is enabled in the Configurator.
InBatch Development Client - I/A Components for Development Client	Batch Management Remote Development Client - I/A Component Support is enabled in the Configurator.
InBatch Runtime Client - I/A Components for Runtime Client	Batch Management Remote Runtime Client - I/A Component Support is enabled in the Configurator.
InBatch History Server	Batch Management History Server

<p>InBatch Reporting Content</p> <ul style="list-style-type: none"> • Batch Alarm Reports • I/A Alarm Reports 	<p>Batch Management Reporting Content</p> <ul style="list-style-type: none"> • Deploy Alarm Reports in the Configurator. • Deploy I/A Alarm Reports by enabling I/A Component Support in the Configurator.
<p>InBatch IDE/IEE Extension</p>	<p>Batch Management Components for Archestra IDE</p>
<p>InBatch Documentation</p>	<p>Batch Management Documentation</p>

Note: InBatch is now Batch Management. However, in some instances, you may see “InBatch” in upgrade path, batch reports, and so on.

Deployment Scenarios

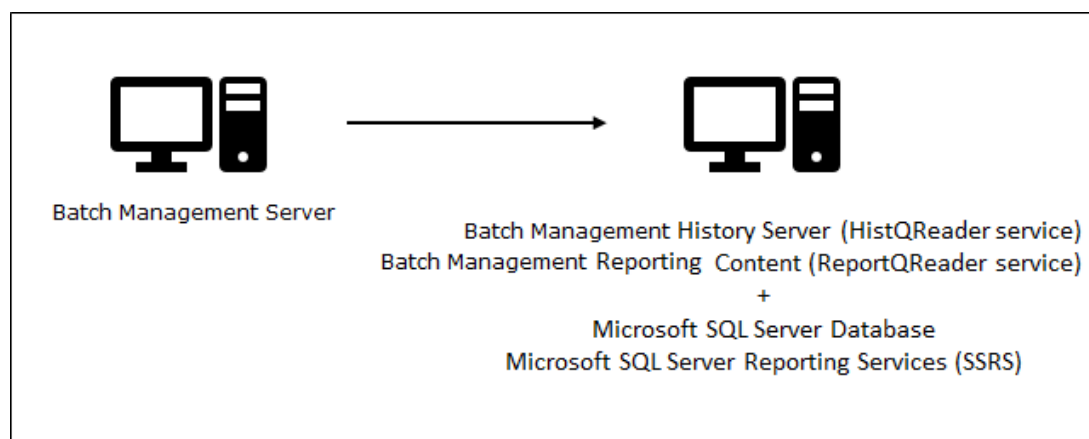
The following section describes the various deployment scenarios for Batch Management and how SQL Server Database and Microsoft SQL Service Reporting Services (SSRS) exist on remote nodes.

Note: You can create Batch History databases, Batch Archive databases, and SSRS reports on:

- A remote node where SQL Server and SSRS are installed.
- The same node as Batch Management History and Batch Management Reporting Content features.

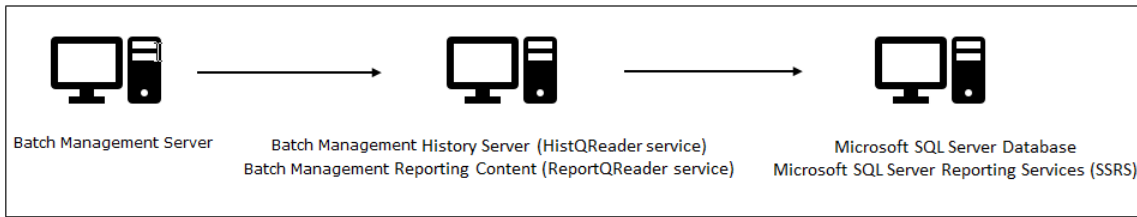
Two-Node Setup

The following image represents the two-node setup for Batch Management.



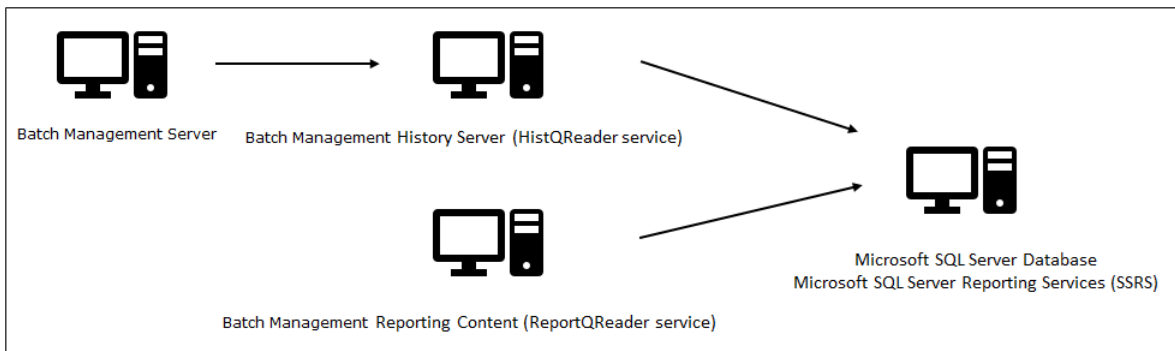
Three-Node Setup

The following image represents the three-node setup for Batch Management.



Four-Node Setup

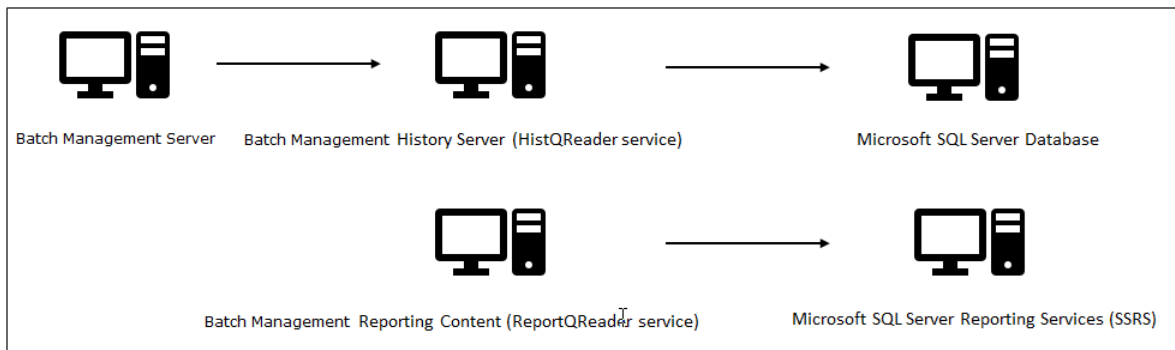
The following image represents the four-node setup for Batch Management.



Note: Ensure to start the **Remote Registry** service on the node where SSRS is installed.

Five-Node Setup

The following image represents the five-node setup for Batch Management.



Note: Ensure to start the **Remote Registry** service on the node where SSRS is installed.

Installation Prerequisites

The Batch Management installation program analyzes the software installed on your computer and lists any software that is required but not currently installed. You do not need to exit the Batch Management installation procedure to install the prerequisite software. Installing the Batch Management product is a three-step process:

1. Installing and configuring prerequisite software, such as the operating system components, Microsoft SQL components, Internet Information Services (IIS), and so on.
2. Installing the Batch Management product files.
3. Configuring the Batch Management product so that it is ready for use.

For details on hardware requirements and the specific versions of required and supported software prerequisites, see the latest *Batch Management Readme*.

Prerequisites for Installing Batch Management History Server

Before you install a Batch Management History Server, you must have the required version of Microsoft SQL Server set up on the node. For more information on the supported versions of SQL Server, see the latest *Batch Management Readme*.

You must also have IIS and ASP.NET installed.

Prerequisites for I/A Series Systems

When using Batch Management with I/A series software you need to make the following changes for the system to operate correctly. The I/A series software uses a "locked down" version of Windows, even in the standard mode. Because of this, you must enable several Windows services and user accounts related to IIS before installing the Batch Management History Server. You must enable the following Windows services and set them to automatic:

- IIS Admin Service
- WWW Publishing Service

You must enable the built-in IIS user accounts and use the following naming convention:

- IUSR_*
- IWAM_*

Installing and Configuring IIS and ASP.NET

NOTE: IIS is only required if you are installing the History Server or the Reporting Content.

The Windows Server includes IIS, but it is not included in the default installation. You must perform a manual installation of IIS on this operating system.

Configuring IIS and ASP.NET

During the post installation configuration of the Batch Management History Server feature, the Configurator sets up IIS and ASP.NET automatically. For detailed information about manually configuring IIS and ASP.NET, refer to the Microsoft documentation.

Should you have to manually configure IIS and ASP.NET, below are the subcomponents you must select for Internet Information Services (IIS), depending on the version of Windows you are using.

Windows 2012, Windows 2012 R2, Windows 2016, and Windows 2019

- Under **Management Tools**, select:

- IIS 6 WMI Compatibility
- IIS Metabase
- IIS 6 Scripting Tools
- IIS 6 Management Console
- IIS Management Console
- IIS Management Scripts and Tools
- IIS Management Service
- Under **Application Development Features**, select:
 - .NET Extensibility
 - ASP.NET
 - ISAPI Extensions
 - ISAPI Filters
- Under **Common HTTP Features**, select:
 - Default Document
 - Directory Browsing
 - HTTP Errors
 - HTTP Redirection
 - Static Content
- Under **Health and Diagnostics**, select:
 - HTTP Logging
 - Request Monitor
- Under **Performance Features**, select:
 - Static Content Compression
 - Dynamic Content Compression
- Under **Security**, select:
 - Request Filtering
 - Windows Authentication

Enabling .NET Framework 3.5 SP1

Refer to the following URLs to manually enable .NET Framework 3.5 SP1 on your Windows Operating System, depending on the version of Windows you are using:

- **Windows 2012 and 2012 R2:** <https://technet.microsoft.com/en-us/library/dn482071.aspx>
- **Windows 8.1 and 10:**
<https://docs.microsoft.com/en-us/dotnet/framework/install/dotnet-35-windows-10>

Installing Batch Management Reporting Content

Before you install Batch Management reporting content, you must have a supported version of SQL Server set up on the node. For more information, refer to the *Batch Management Readme*.

About Firewalls

If you have a corporate firewall, hardened device (appliance), or software application on a dedicated hardened platform, you need not implement a personal firewall on each computer.

We recommend that you disable the personal firewalls on all computers where you plan to install the Batch Management product. Individual Batch Management features have their own firewall requirements and procedures.

CHAPTER 3

Batch Management Installation

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About this Chapter

This section describes how to install, modify, repair, uninstall, and upgrade the Batch Management product.

Before You Install or Upgrade the Batch Management Product

This section discusses several things that you must consider before you install or upgrade the Batch Management product.

What Happens During the Installation Process

The Batch Management installation procedure does the following:

- Installs or upgrades the selected features.
- During a product upgrade, the existing Batch configuration files and history database files are backed up and restored.
- Opens the TCP/IP ports required by Batch Management that are blocked by default in Windows; configures the program exception for the OLE automation server.
- Adds all the Batch Management History Server portals to the trusted sites zone.

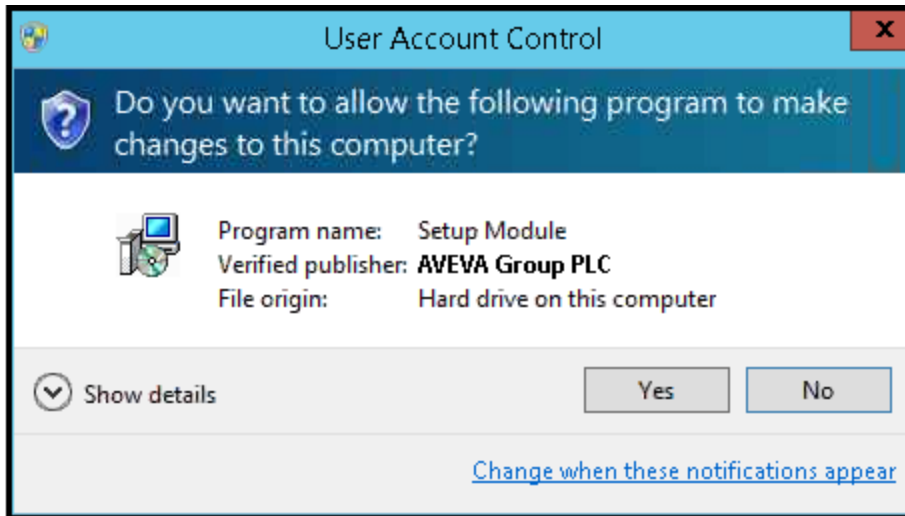
When completing a Batch Management upgrade, any previous product and patch information is removed from the Add/Remove Programs option within the Control Panel.

You can install Batch Management Runtime Client and Batch Management Development Client on a terminal server. If you do enable terminal services on the Batch Management Server, you must install a Batch Management Runtime Client server license.

The Batch Management Installer will not allow you to install Batch Management on a Domain Controller.

Using User Account Control (UAC) Enabled Operating Systems with Batch Management

When UAC is enabled on operating systems, a security prompt is shown when you start the installation.



If necessary, enter the administrative user credentials to allow the installer to proceed.

Service User Account

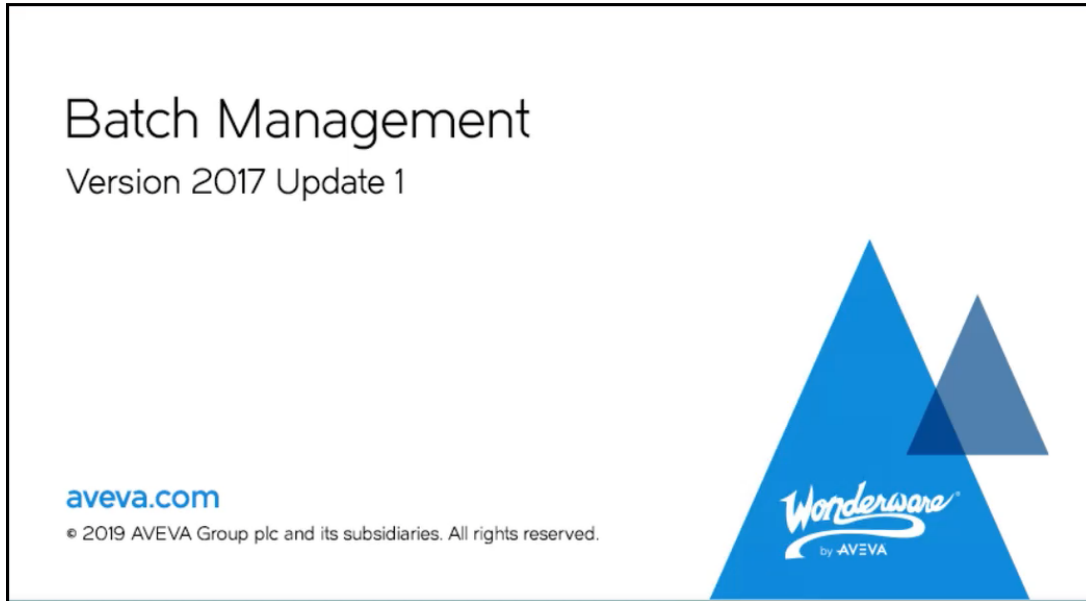
The Service user account is a user name and password combination that is used for running the Batch Management services, such as EnvMngr, SecMngr, and HistQMngr. Ensure that the user account has Administrator privileges.

Installing Batch Management

You must be logged on as a user with administrative privileges to install the Batch Management product.

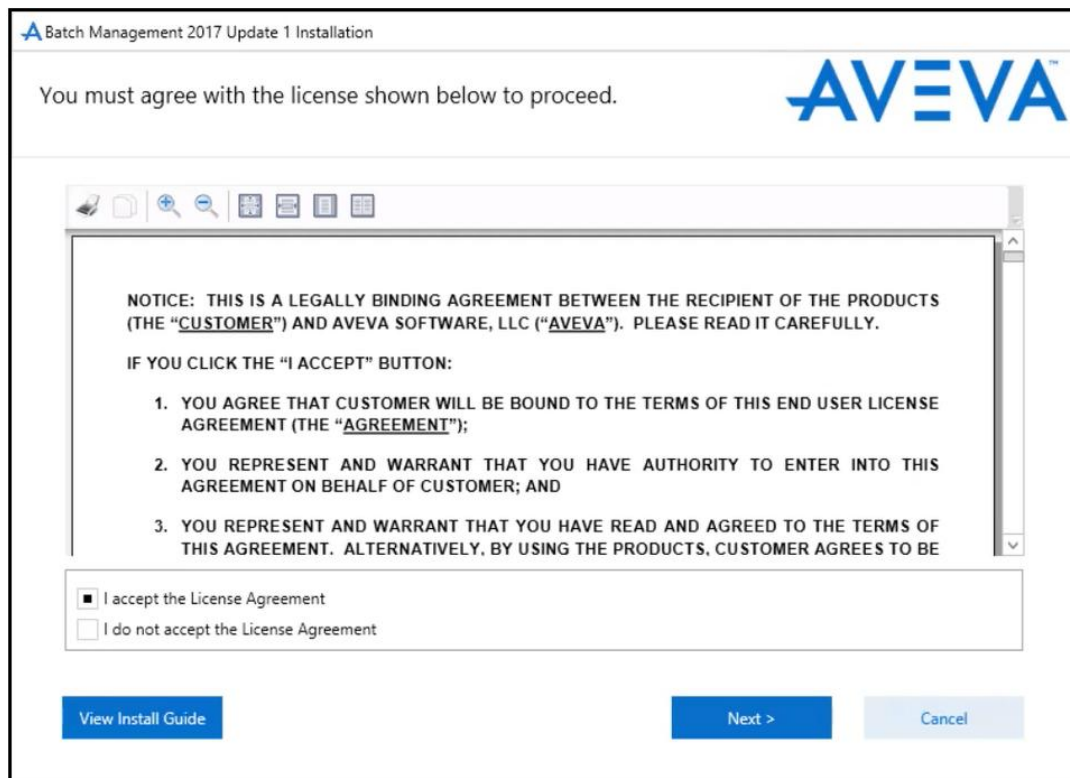
To install Batch Management features

1. Insert the Batch Management product installation media. The installation program runs automatically. If your network or company security policy does not permit autorun, browse the root directory of the installation media and double-click **Setup.exe**. The **Batch Management Installation Wizard** starts.

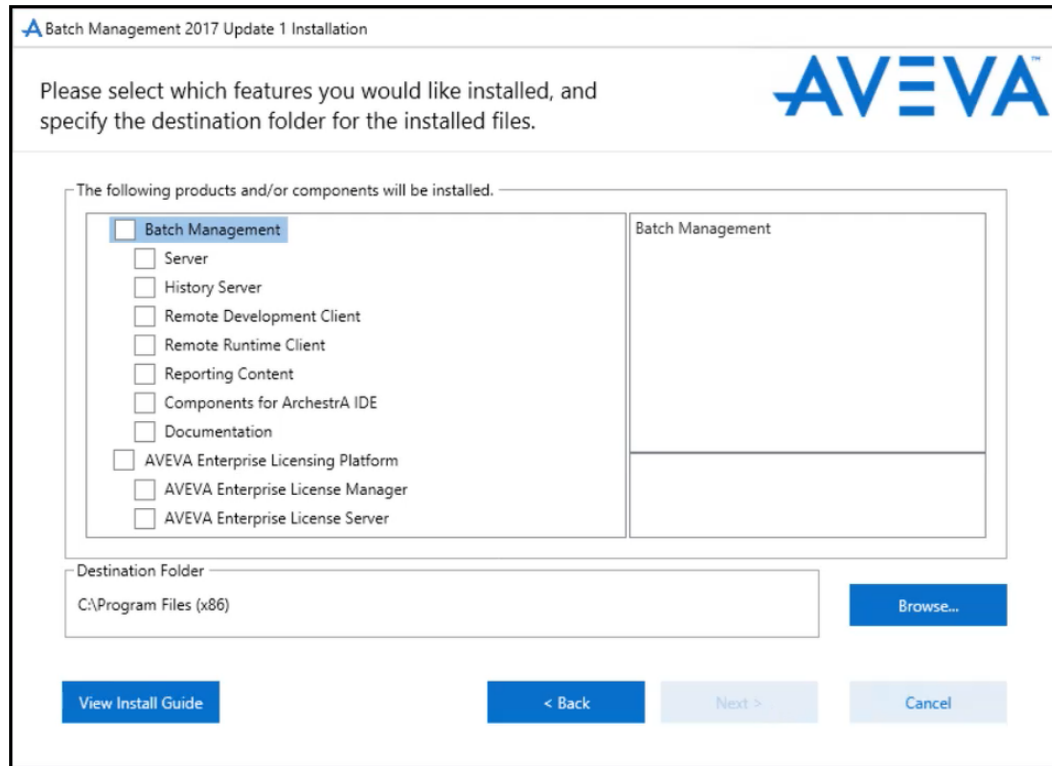


The installation program detects and installs the initial system requirements. For more information on specific system requirements, see the latest *Batch Management Readme*.

2. After installing the initial system requirements, the **License Agreement** dialog box appears.



3. Read the license agreement. You can print a copy of the license agreement for your records using the **Print License** button.
4. Click **I accept the license agreement** and then click **Next**. The **Batch Management Installation** dialog box appears.



You can view the Install Guide online by clicking the **View Install Guide** button.

5. Select the check boxes to indicate which features you want to install, and then click **Next**.

You can click **Browse** to change the destination folder where the program will be installed.

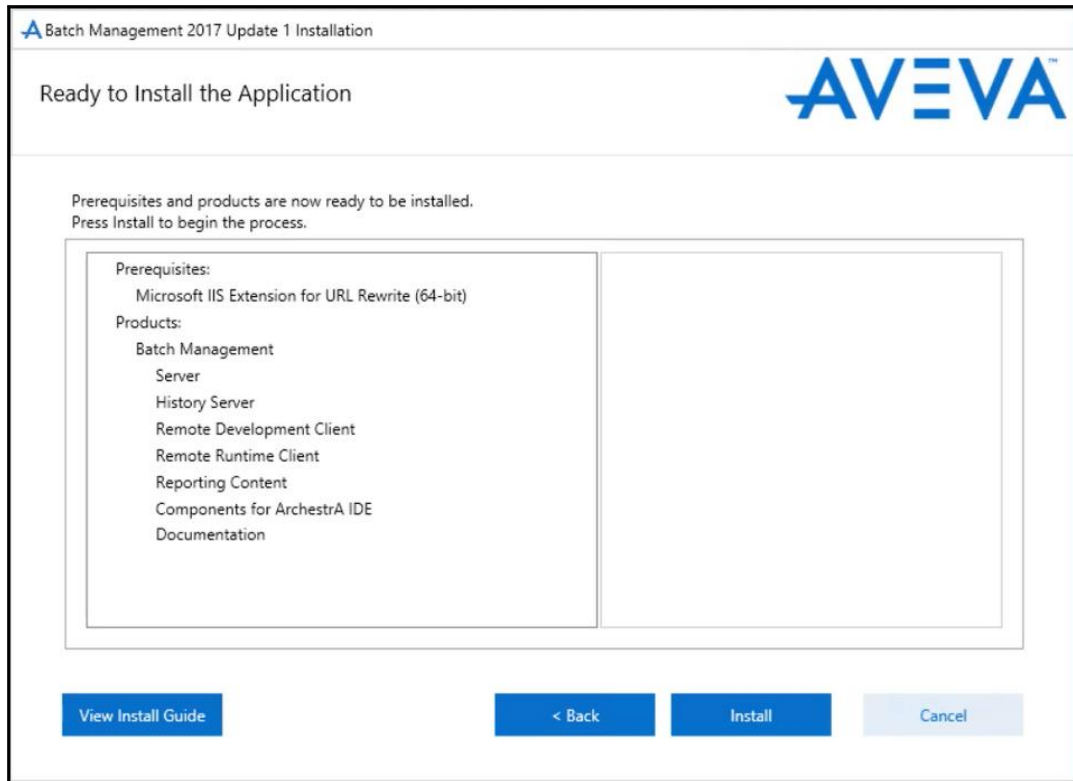
If you select **AVEVA Enterprise Licensing Platform** feature for installation, the installer will check and install prerequisites for AVEVA Enterprise Licensing also. For more information on AVEVA Enterprise Licensing, refer to the *AVEVA Enterprise License Platform Guide*.

NOTE: You can select multiple features and all the selected features will be installed together if all the prerequisites are met.

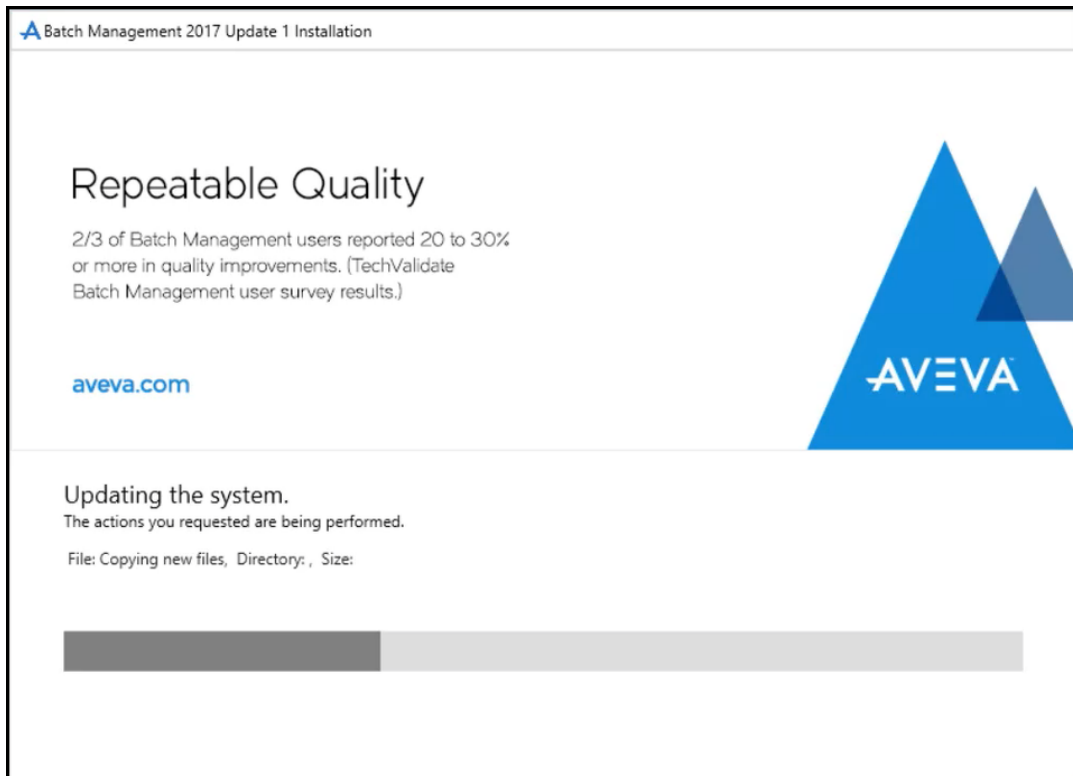
IMPORTANT: You should **NOT** select the Batch Management Remote Runtime Client or Batch Management Remote Development Client features if you are selecting the Batch Management Server feature for install. They are already available on the Batch Management Server.

6. When you select a Batch Management feature to install, a list of prerequisites for all the remaining Batch Management features will be displayed.
Any prerequisites you are missing will be identified as not met.

7. Click **Install Prerequisites**. The program installs the prerequisites. When all prerequisites are installed, click **Next**. The **Ready to Install the Application** dialog box appears.



8. Review your installation options and then click **Install**. The **Updating the system** dialog box appears. The installation program starts installing the selected Batch Management features.



9. After the installation is complete, the **Installation Completed** dialog box appears.



10. If the installed features require configuration, click **Configure**. For more information on configuring Batch Management, see Batch Management Configuration.

The following table lists the components installed along with each of the Batch Management features.

Feature	Components Installed
Batch Management Server	Configuration components: <ul style="list-style-type: none"> ○ Environment Editor (EnvEdit) ○ Process Modeling Editor (ModelEdit) ○ Tag Linker Editor (TagLinker) - I/A Linker (I/ALinker) if system is configured for I/A ○ Train Editor (TrainEdit) ○ Materials Editor (MaterialEdit) ○ Recipe Editor (RecipeEdit) ○ Recipe Compare (RecipeCmp) ○ Process Log Editor (LogEdit) ○ Batch Reporting (BatchReport) ○ Phase Logic Testing Tool (PhaseLogic) ○ Change Password (ChgPwd) ○ Security Editor (SecEdit) ○ Import/Export Utility (ImpExpUtil)

Feature	Components Installed
Batch Management Server	Runtime components: <ul style="list-style-type: none"> ○ Environment Display (EnvDspl) ○ Batch Talk ActiveX Control (OCXBATCH.OCX) ○ Recipe Procedure SFC ActiveX Control (INBATCHSFC.OCX) ○ Material Automation Server (MATERIALSVR.EXE) ○ Batch Function Interface Type Libraries (BATCHOBJSRV.DLL & BATCHVBSEVER.DLL) ○ Middleware Host ○ Batch Management Web Server ○ Batch Management Stateless API ○ Batch Event Provider (only enabled if running with System Platform 2014 R2 or greater) ○ Batch Server localization resource files
Batch Management Remote Development Client	<ul style="list-style-type: none"> ○ Process Modeling Editor (ModelEdit) ○ Editor (TagLinker) ○ Train Editor (TrainEdit) ○ Material Editor (MaterialEdit) ○ Recipe Editor (RecipeEdit) ○ Recipe Compare (RecipeCmp) ○ Batch Reporting (BatchReport) ○ Security Editor (SecEdit) ○ Process Log Editor (LogEdit)
Batch Management Remote Runtime Client	<ul style="list-style-type: none"> ○ Batch Display (BatchDspl) ○ Batch Scheduler (BatchSched) ○ Batch OCX Controls ○ Batch Management Stateless API ○ Batch View (BatchView) - if system is configured for I/A
Batch Management History Server	<ul style="list-style-type: none"> ○ Batch History DB ○ Batch Archive DB ○ History Server localization resource files.

Feature	Components Installed
Batch Management Reporting Content	<ul style="list-style-type: none"> ○ Report Management Web Pages and Links ○ Report Templates ○ Reporting Server localization resource files.
Batch Management Components for Arcestra IDE	<ul style="list-style-type: none"> ○ Unit Application Object package (InBatchUnit.aaPKG) ○ Connection Application Object package (InBatchConnection.aaPKG) ○ Phase Application Object package (InBatchPhase.aaPKG) ○ Segment Application Object package (InBatchSegment.aaPKG) ○ Graphics Package (InBatchGraphics.aaPKG) ○ Arcestra IDE Extensions for Batch Management (Import Model and Launch EnvDspl) ○ Batch .NET Controls (IBGuiControls.Net.DLL) ○ Batch Management Stateless API Script Libraries (InBatch.API.aaSlib, InBatchCommon.aaSlib, and InBatchObjectSupport.dll) ○ Batch Event Service Definition, Event Service Editor, and Event Client Library (only used if installing on System Platform 2014 R2 or higher)

Batch Event Information:

The Batch Event feature is only enabled when running with System Platform 2014 R2 or greater. You must install the following combinations:

- Install Application Server Runtime (Bootstrap) on all the Batch Management Server nodes.
- Install Batch Management Components for Arcestra IDE on the Application Server Galaxy Repository (GR) node.
- Install Batch Management Components for Arcestra IDE on at least one Application Server Development (IDE) node. (Only required if you need to use IDE for Advanced Event Service configuration.)

For more information on configuring Batch Events, see *Configuring the Batch Management Server* on page 41. More information is also available in the "Batch Management Events" section of the *Batch Management User Guide*.

Modifying the Batch Management Installation

You can add new Batch Management features or remove the existing Batch Management features.

NOTE: You must have the installation media ready before you modify a program.

To modify a Batch Management installation

1. Click the **Add or Remove Programs** option in Windows **Control Panel**. The list of software installed on your computer appears.
2. Double-click the **Batch Management** icon. The **Modify, Repair or Remove installation** dialog box appears.

NOTE: The name of the **Uninstall/Change** button varies depending on the Windows operating system installed on your computer.

3. Click **Modify**, and then click **Next**. The list of Batch Management features installed on your computer appears.
4. Select or clear the features that you want to add or remove, and then click **Next**. The **Select Modify to confirm feature changes** dialog box appears.
5. Click **Modify**. The selected features are added or removed.
If you are adding some new features during modification, the **Prerequisites** dialog box appears.
6. Click **Install Prerequisites** to install the required software.
7. Click **Next**. After the files are copied and updated, the **Process has completed successfully** dialog box appears.
8. Click **Finish**. The modification is complete.

Repairing the Batch Management Installation

You can repair the missing or corrupt files, registry keys, or shortcuts. You can also reset the registry key to the default value.

NOTE: You must have the installation media ready before you repair a program.

To repair an installation

1. Click the **Add or Remove Programs** option in Windows **Control Panel**. The list of software installed on your computer appears.
2. Double-click the **Batch Management** icon. The **Modify, Repair or Remove installation** dialog box appears.

NOTE: The name of the **Uninstall/Change** button varies depending on the Windows operating system installed on your computer.

3. Click **Repair**, and then click **Next**. The **Confirm Repair** dialog box appears.
4. Click **Repair**. The **Process has completed successfully** dialog box appears.
5. Click **Finish**. The installed Batch Management product is repaired.

Uninstalling Batch Management

You can uninstall the Batch Management product that is installed on your computer.

NOTE:

- **Before you begin to uninstall Batch Management, back up your Config_A directory. This directory will be deleted during the uninstall process.**

- When you uninstall the Batch Management application, the Configurator renames the **messages** folder to **messages_<date>_<time>** and the localized CSV files are not deleted.

To uninstall a Batch Management installation

1. Click the **Add or Remove Programs** option in Windows **Control Panel**. The list of software installed on your computer appears.
2. Double-click the **Batch Management** icon. The **Modify, Repair or Remove installation** dialog box appears.
The name of the **Uninstall/Change** button varies depending on the Windows operating system installed on your computer.
3. Click **Remove**, and then click **Next**. The **Confirm that you want to uninstall** dialog box appears.
4. Click **Uninstall**. The complete uninstall dialog box appears.
5. Click **Finish**. The uninstall process is complete.

Upgrading Previous Versions

Before you begin an upgrade, it is important that you do the following:

- Confirm that the History Error Queue is empty. Because of changes to the InBatch History database, any data left in the Error Queue will not be accessible in the upgraded version. Refer to the "System Administration" section of the *Batch Management User Guide* for detailed information.
- Ensure that all batches have ended and that all warm restart files have been deleted.

The upgrading process varies depending on the version from which you are upgrading.

For information on upgrading from InBatch 9.0 or greater, see the "Upgrading from InBatch 9.0 or Later" section. For information on upgrading from a pre-InBatch 9.0 version, refer to "Upgrading from pre-9.0 InBatch Product".

The **x_internal_ia** and **x_internal_ib** folders are for internal use only. You should only use the **dflt_cfg** folder.

Upgrading from InBatch 9.0 or Later

When you install Batch Management 2017 Update 1 on a system that already has InBatch 9.0 or a later version, the installation procedure automatically detects the earlier version of InBatch and upgrades it to the version you are installing.

NOTE: When you upgrade from previous versions (11.0 or earlier) of InBatch to Batch Management 2017 Update 1, all the InBatch links from Information Server database are removed. You can verify the NavNode, NavRole, and NavPanelNode tables where all InBatch related rows must be removed. The .rdl template files are also removed from ArcestrA\InBatch Reports folder and are now deployed in the new path "Batch Management Reports" folder in the Reporting service URL. If you upgrade to the latest version of Batch Management from any previous versions, the Reports folder name is updated from "InBatch Reports" to "Batch Management Reports".

To upgrade from InBatch 9.0 or greater

1. Insert the Batch Management CD into the CD-ROM drive and run setup.exe. The Installation Wizard starts.
The **Installation Wizard** detects the earlier version of the InBatch product and starts the upgrade procedure.
The **License Agreement** dialog box appears.
2. Read the license agreement, and then click **I accept the license agreement**.
3. Click **Next**. The **Batch Management Installation** dialog box appears. The features that are installed in the previous version of InBatch are automatically selected for upgrade.
You cannot change the feature selection during the upgrade.

4. Click **Next**. If your computer does not meet the prerequisites for the InBatch features to be upgraded, the **Prerequisites** dialog box appears.
5. Click **Install Prerequisites**. When all the prerequisites are installed, click **Next**. The **Ready to Upgrade** dialog box appears.
6. Click **Upgrade**. The **Backup** dialog box appears. The installation wizard takes a backup of the existing InBatch data and then the progress bar appears.

The files from the previous versions of InBatch are uninstalled and new files are copied. The **Restore** dialog box appears briefly.
7. After the upgrade process is complete, the complete installation dialog box appears.
8. If the upgraded features require configuration, click **Configure**. For more information on configuring InBatch, see Batch Management Configuration.

If your History or Archive database needs to be upgraded, the upgrade will take place automatically during the configuration process.

NOTE: After upgrade, you can access the reports from the standard Reporting Services URL or the shortcut menu available in the Batch Management folder. The reports will not be available from the Information Server. Also, the History Administration and Report Administration web pages now have their own shortcut menus available in the Batch Management folder.

IMPORTANT: When you upgrade the Batch Management Server feature, the Batch Management share exists with 'Everyone' as 'Full control' permissions. Make sure you remove the share and reconfigure the Batch Management Server feature in order to add the current logged user with 'Full control' permissions on the Batch Management folder share.

Upgrading from pre-9.0 InBatch Product

When you install Batch Management 2017 Update 1 on a system that has an older version of InBatch (such as 8.0, 8.1, or 8.1 SP1), the prerequisites program detects the older version of InBatch and stops the upgrade procedure. You will have to manually uninstall the existing version of InBatch and install the latest version as described below.

If you are using a version of InBatch earlier than 8.1, upgrade to InBatch 8.1. This process updates the databases and other files to a format that is compatible with the Batch Management 2017 Update 1 installation procedures.

To upgrade your pre-9.0 InBatch product to Batch Management 2017 Update 1

1. Back up your pre-9.0 InBatch configuration and database files.
2. Uninstall the pre-9.0 InBatch product using **Programs and Features** on the Control Panel. This removes the InBatch product and configuration files, but leaves the databases.

If you are upgrading from InBatch 8.1 SP1 and your History or Archive database needs to be upgraded, the upgrade will take place automatically during the configuration process.
3. If you are uninstalling 8.1 SP1 on a system that has a WAS bootstrap or a DAS server installed, do the following before uninstalling 8.1 SP1:
 - a. Undeploy all platforms deployed to system and stop all DAS Servers.
 - b. Find and back up the file `c:\windows\system32\msstkprp.dll`.
 - c. Uninstall the InBatch product as described in Step 2. Do not reboot when done.
 - d. Restore the file `msstkprp.dll` to the `c:\windows\system32` directory.
 - e. From a command prompt, change the directory to `c:\windows\system32`.
 - f. Register the control by typing `regsvr32 msstkprp.dll`.
 - g. Reboot and continue with steps below.

4. Insert the Batch Management installation media. The auto-run capability of Windows starts the setup program. If it does not, from the **Start** menu, select **Run** and enter **E:\setup.exe** (where **E:** is your installation media drive). The **Batch Management Installation Wizard** starts and the main **Batch Management Setup** dialog box appears.
5. Follow the procedures in the Installation Wizard.

Converting the Configuration Files

Whether you are upgrading from a pre-9.0 version or 9.0 or higher version of InBatch, you must convert your configuration files for use with Batch Management 2017 Update 1.

To convert the configuration files to Batch Management 2017 Update 1

1. If you are upgrading from InBatch 9.0 or greater, skip to Step 2. If you are upgrading from a pre-9.0 version of InBatch, restore your configuration files by copying your backed up Config_A directory contents to the **C:\Program Files\Wonderware\Batch Management\cfg\Config_A** directory.

NOTE: This replaces the directory that the install created.

2. On the InBatch server node, from the **Start** menu, select **Environment Display**. The **Environment Display** dialog box appears.
3. From the **File** menu, select **Exit and Shutdown**.
4. Close the **WWLogger**.
5. From the **Start** menu, select **Run**, and then enter **C:\Program Files\Wonderware\Batch Management\bin\CvtMaster.exe**. A dialog box asks you to make sure that you have backed up your configuration files and that your InBatch History Server is connected to the history database.
6. Click **OK**. The **Batch Database Conversion Utility** dialog box appears.
7. Click **Convert**.

The conversion utility converts the databases in the specified directory. When the conversions are complete, the utility displays information about the databases that were:

- Converted
- Not converted or skipped
- Already upgraded to Batch Management 2017 Update 1

The utility logs information about the conversion operations in the DbCvt.txt file, located in the configuration folder.

8. Shutdown the **CvtMaster** utility and start **EnvDspl**.
9. Run **ModelEdit** and perform a **Validate**. This will create any new System tags that have been added.

NOTE: You will need to do an **Update Runtime** if new system tags are created.

Upgrading Platforms that Use the InBatch Stateless API

If you are upgrading from InBatch 9.5, the following InBatch Stateless API methods have been modified to include DoneBy and CheckBy (DoneBy, DoneByPswd, CheckBy, CheckByPswd) arguments:

- AddScheduleEntry
- DeleteScheduleEntry
- InitializeScheduleEntry

The AddScheduleEntry, DeleteScheduleEntry, and InitializeScheduleEntry methods use the security set for Access Schedule method. Use the security authentication set required for Access Schedule method of the Batch Client application.

NOTE: If you are upgrading from 9.5 and are using any of the above-mentioned methods, you will need to modify your code or script.

To upgrade platforms that use the InBatch Stateless API

The following are the upgrade instructions:

1. Run the Batch Management upgrade on all InBatch Runtime Client and Batch Server systems. This includes any Application Server platforms that have InBatch API scripting deployed and running.
2. Before running the Batch Management upgrade, it is best to undeploy all Application Server platforms that are deployed to a Batch Runtime Client or Batch Server.
3. Install the Batch Management upgrade and re-import the InBatch API DLLs into the Galaxy. For more information on importing DLLs, see the *Batch Management Stateless API Guide*.
4. Redeploy all platforms, engines, and objects as needed.

CHAPTER 4

Batch Management Configuration

This section describes how to configure Batch Management features using the Configurator. You must configure the features after you have installed them.

In This Chapter

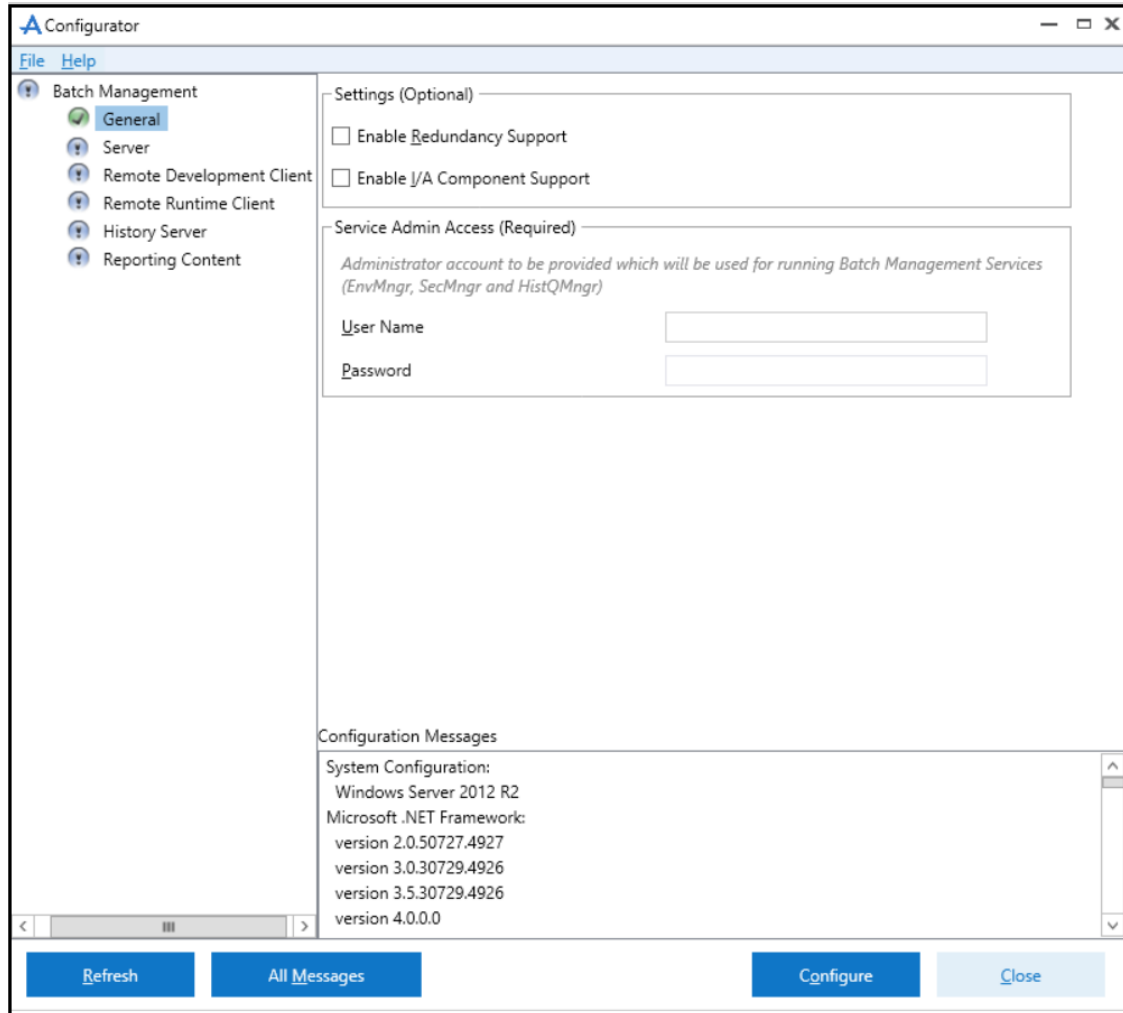
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Starting the Configurator

You can start the Configurator at the end of the Batch Management installation program. If the product is already installed, you can start the Configurator from the Windows **Start** menu.

To start the Configurator

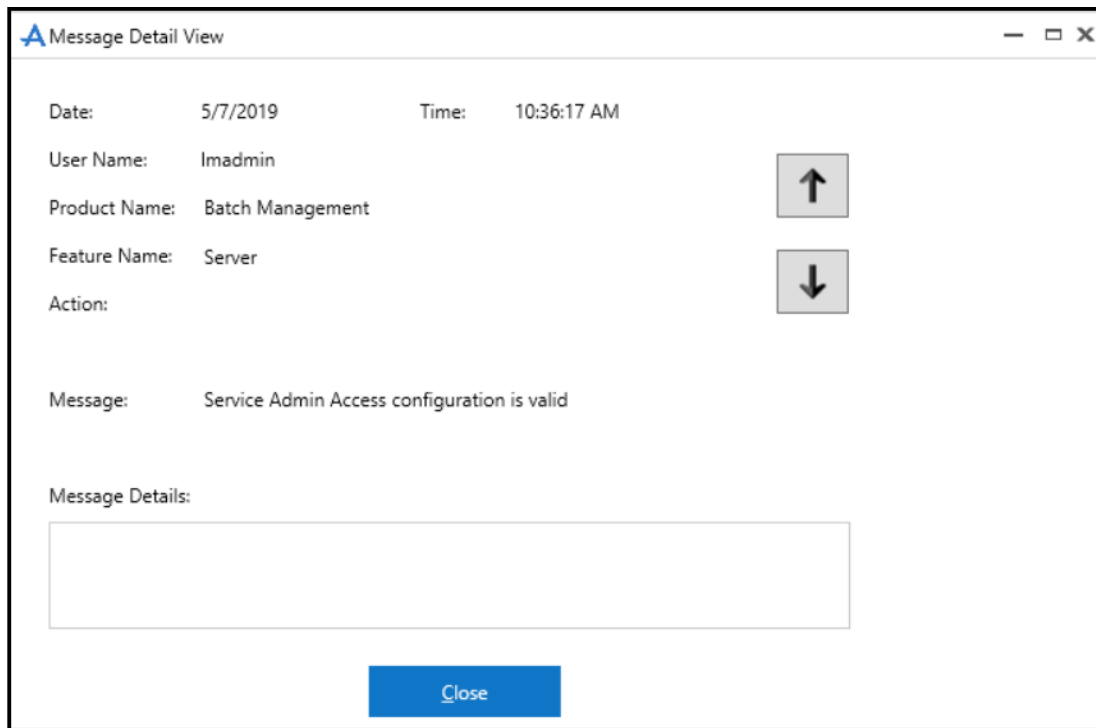
1. On the **Start** menu on the Windows **Taskbar**, point to **Programs > Wonderware > Common > Configurator**. The **Configurator** main window appears.



2. In the left pane, expand **Batch Management**. The list of Batch Management features that you have installed appears.

When you click a feature name, the configuration options appear in the right pane. If you click **Refresh** or select a Batch Management feature in the Configurator, after you have configured the feature, the Configurator validates the settings. A warning message appears if the settings are not valid and the state of the selected feature changes to *Warning* state.

You can view the status messages and error messages in the **Configuration Messages** area, in the bottom right of the dialog box. For more information about a message, including possible actions you need to take, double-click the message text in the window.



3. Click on each installed feature and configure the options.
 - For more information on configuring General settings, see *Configuring the General Settings* on page 35.
 - For more information on configuring the Server, see *Configuring the Batch Management Server* on page 41.
 - For more information on configuring the Remote Development Client, see *Configuring the Batch Management Remote Development Client* on page 45.
 - For more information on configuring the Remote Runtime Client, see *Configuring the Batch Management Remote Runtime Client* on page 47.
 - For more information on configuring the History Server, see *Configuring the Batch Management History Server* on page 49.
 - For more information on configuring the Reporting Content, see *Configuring the Batch Management Reporting Content* on page 53.
 - To configure features that do not require user input, select the feature, and then click **Configure**.
4. When you are done, click **Close**.

Configuring the AVEVA Enterprise License Server Location

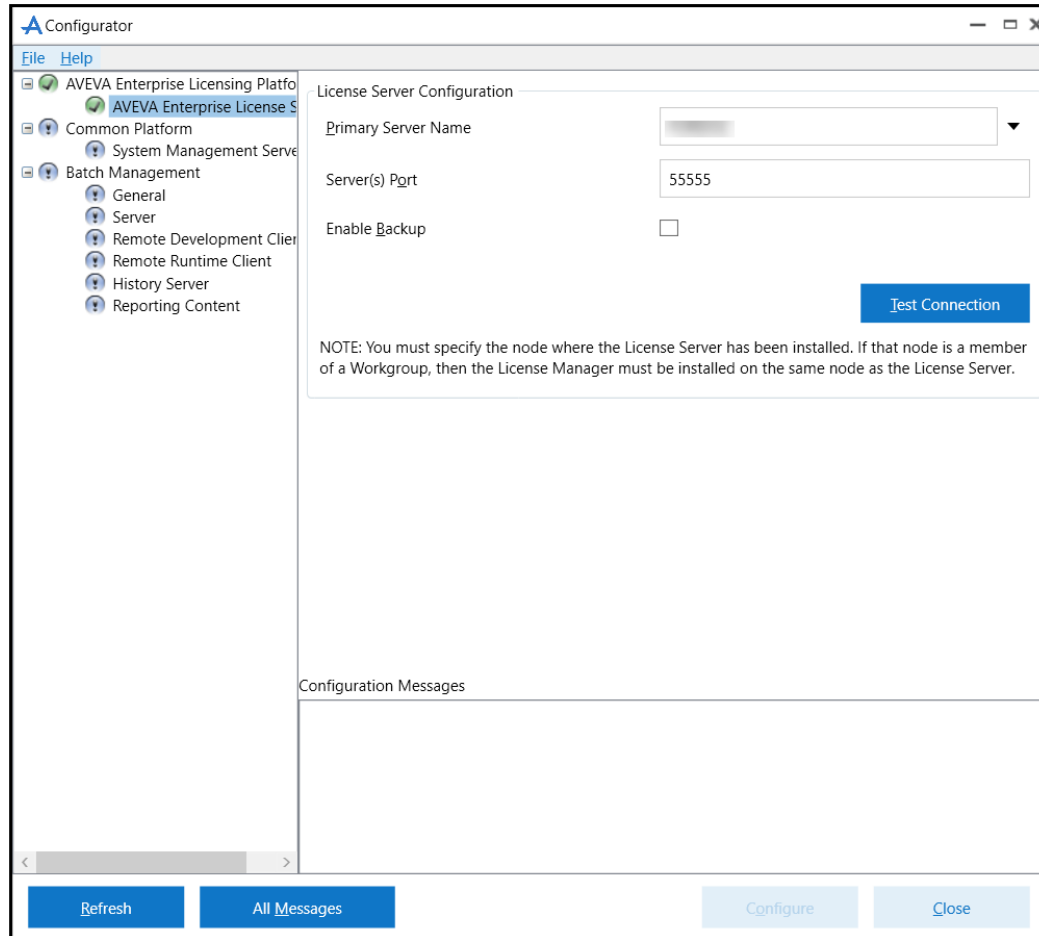
Detailed information about configuring the AVEVA Enterprise License Server is contained in the *AVEVA Enterprise License Platform Guide*. This guide can be accessed from the AVEVA Enterprise License Manager (see *License Installation and Activation* on page 30 for additional information). The basic steps to configure the location of the AVEVA Enterprise License Server are:

1. In the left pane, select **AVEVA Enterprise License Server**. Then, in the right pane enter:

- **Primary Server Name:** if the License Server is not installed on the local node, enter the License Server name, or select a server name from the drop down list of previously-configured License Servers (if any).
- **Server Port:** default is 55555

Note: To see if the license server can be found after entering the Server Name and Port, you can press **Test Connection**.

- **Backup:** If you have configured a backup server (secondary server), select the checkbox to enable backup. Then, enter the secondary server name.



2. Press the **Configure** button.
3. Select the next item in the left pane that requires configuration. When all required items have been configured, press the **Close** button to complete installation. See *System Restart after Configuration* on page 31 for additional information.

License Installation and Activation

You will need to configure the License Server and activate your product licenses before using the products you install. For detailed information about product licensing and activation, refer to the AVEVA Enterprise Licensing Guide. You can access it after installation is complete from the AVEVA Enterprise License Manager node, under the **AVEVA start directory**.

AVEVA Enterprise Licensing

The AVEVA Enterprise License Server acquires, stores, and serves licenses for all installed AVEVA software. The AVEVA Enterprise License Server and Manager work together to provide centralized management of all your product licenses.

For products and roles that do not install the License Server on the same node, you will have to provide the location (node name) of the License Server.

The basic product installation and license activation workflow is:

1. Install Batch Management, along with the AVEVA Enterprise License Server and License Manager.
2. Configure the AVEVA Enterprise License Server. See *Configuring the AVEVA Enterprise License Server Location*.
3. Start the License Manager. The License Manager is browser-based, and is located in the AVEVA folder (Start > AVEVA > AVEVA Enterprise License Manager). The License Manager uses the following URL:

http://localhost/AELicenseManager

Note: If you are running the License Manager from a remote node, substitute the node name for **localhost**.

The License Manager opens in your browser.

4. If a License Server is displayed, click on it to select it. If no License Servers are displayed, click the **Add Server** button, and then enter the computer name of the License Server, or select the computer name from the drop down.
5. Refer to the AVEVA Enterprise Licensing Help for options and procedures to activate licenses.

Note: Changes to licensing, such as switching license servers or activating a new license, should not be done for a product that is already running. Depending on the product, it may take up to 30 minutes to acquire a new or changed license. To immediately acquire a license, restart the affected product. However, product interdependencies may require you to restart the node to force the immediate acquisition of the license.

System Restart after Configuration

When you have configured all the listed components, click **Close**. The system will prompt you to restart. You can restart now or later.

Note: The installed programs may not function properly until you restart the system.

After the system restarts, and before you start using Batch Management, make sure that you have activated your product licenses. See *License Installation and Activation* on page 30.

Configuring the System Management Server

Batch Management 2017 Update 1 incorporates new security measures, including support for the TLS 1.2 protocol for secure encrypted communications between nodes, single sign on (SSO), and certificate management. These features are enabled through a component of the ASB Runtime called the **System Management Server**. To enable security, every Batch Management node must communicate with the System Management Server, and there should only be a single System Management Server in your Batch Management topology. The System Management Server stores shared security certificates and establishes a trust relationship between machines.

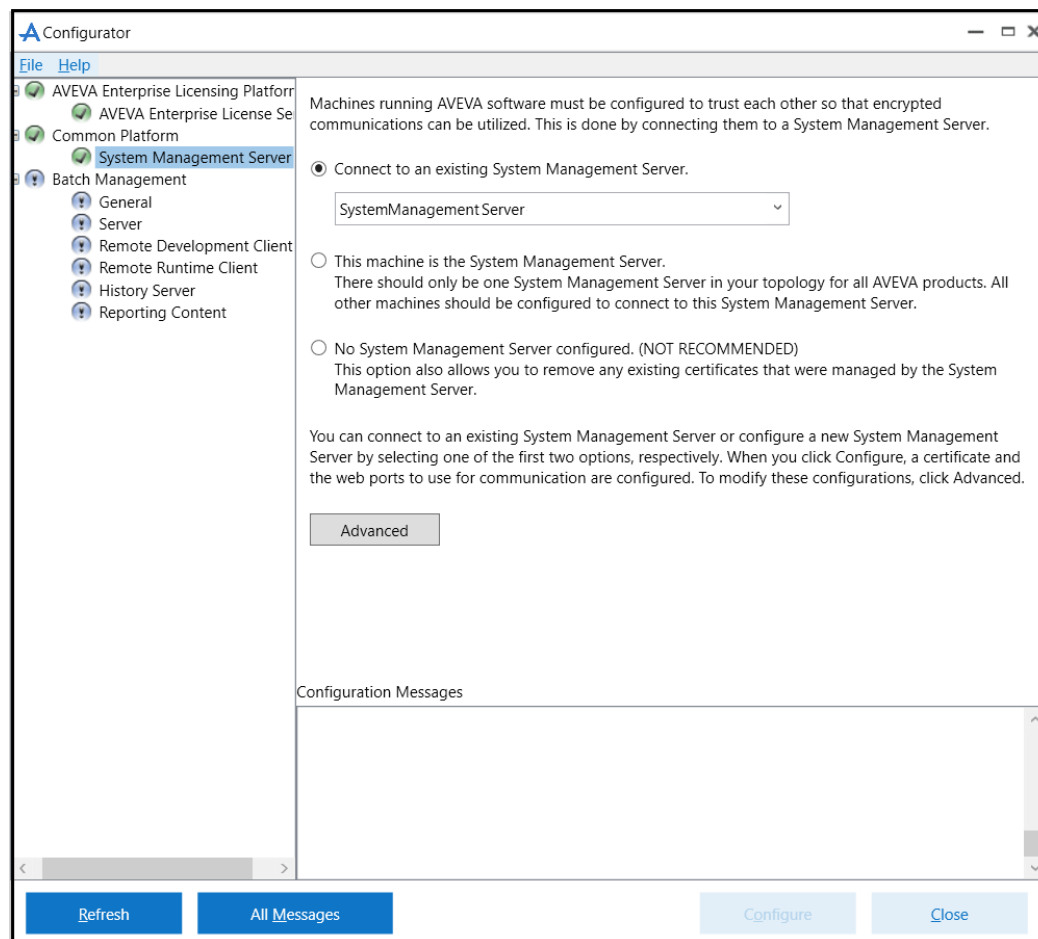
If some nodes have not been upgraded to Batch Management 2017 Update 1, communication with those older nodes will continue to utilize unsecured communication. However, communication between Batch Management 2017 Update 1 nodes will be encrypted, as long as the nodes are configured to communicate with the System Management Server.

Note: From the Batch Management 2017 Update 1 release, System Management Server is used instead of Certificate Management.

To configure the System Management Server

1. In the Configurator, select **System Management Server** under **Common Platform** in the left pane.

Note: If you are prompted for user credentials for the System Management Server, use the following format to enter the user name: **DomainName\UserName**. The prompt for user credentials may be displayed if you have domain admin privileges but are not an admin on the local machine. You must be a member of the **Administrators** or **aaAdministrators** OS group to configure the System Management Server.



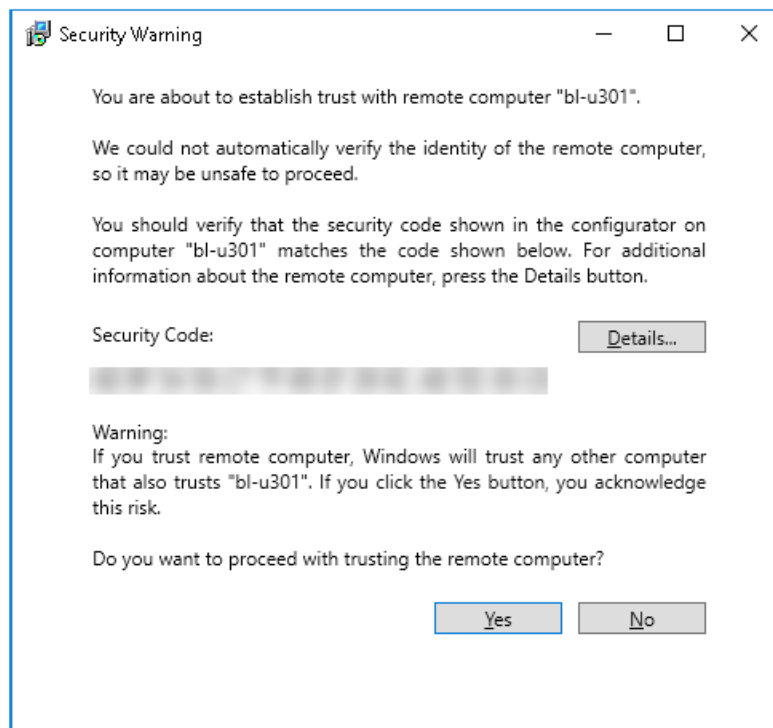
Note: The Configurator is automatically invoked when installation completes. You can also start the Configurator at any time after from the Windows Start menu on Batch Management.

2. You are presented with three choices:
 - Connect to an existing System Management Server:** This is the default option. The Batch Management discovery service looks for any existing System Management Servers on its network. If any are found, they will be displayed in a drop down list. Select the server you want to use, or enter the machine name of the server.

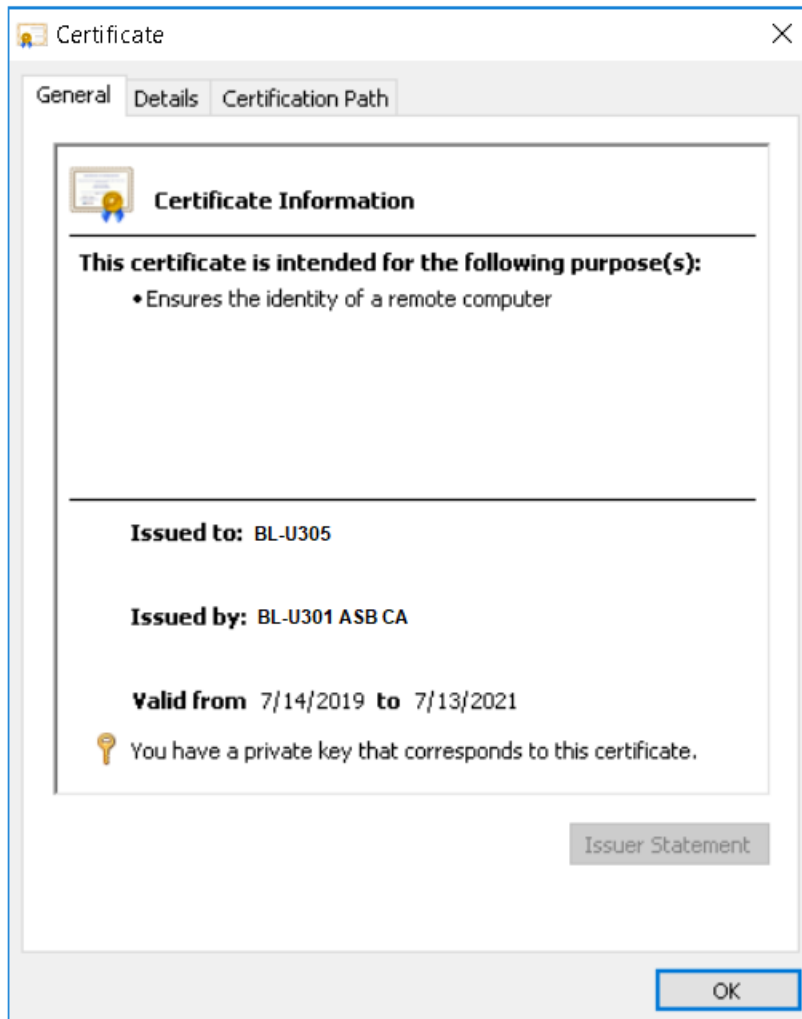
- **This machine is the System Management Server:** Select this option if this computer will be the System Management Server.
 - **No System Management Server configured. (NOT RECOMMENDED):** Select this option to set up your computer without encryption and secure communications. You can still configure other computers in the topology to use a System Management Server.
3. **Advanced settings:** This opens the **Advanced Configuration** dialog window.

- **Certificate Source:** Select either **Automatically Generated** (default), or **Provided by IT**. If your IT department is providing the certificate, press the **Import** button and navigate to the certificate file. For more information, see [Import a Certificate](#).
- Certificate:** The certificate name is displayed. If you imported a certificate, you view it by pressing the **Details** button. The certificate is periodically renewed through an automatic update process, both on the server node and on remote nodes.
- **System Management Server:** If you are connecting to an existing System Management Server, the name and port number of the server you selected is shown.
 - **Common Platform Ports:** The ports for the common platform are used for communications with certain AVEVA software, such as the Sentinel System Monitor. Generally, you can use the default settings. Remote nodes must be configured with the same port numbers as configured here. Click the **Advanced** button, then edit the port numbers as needed.
Default HTTP port: 80
Default HTTPS port: 443

- 4. Press the **Configure** button. A **Security Warning** window is displayed:



By establishing trust between machines, communications can pass freely. This will be a security concern if you are not sure of the identity of the remote computer. If you have any doubt about the computer you are connecting to, verify the security code and certificate details by selecting the **Details...** button in the Advanced Configuration dialog to open the certificate.



5. Select the next item in the left pane that requires configuration. When all required items have been configured, press the **Close** button to complete installation. See *System Restart after Configuration* on page 31.

Configuring the General Settings

You can configure the redundancy support and I/A components support using the General Settings option in the Configurator. If you change the general settings after you have configured the Batch Management features, you must use the Configurator to update all the required features.

To configure the General settings

1. Open the Configurator.

- Click **General** in the left pane. The configuration options appear in the right pane.

The screenshot shows a configuration window with two main sections:

- Settings (Optional)**: Contains two unchecked checkboxes:
 - Enable Redundancy Support
 - Enable I/A Component Support
- Service Admin Access (Required)**: Contains a descriptive text: "Administrator account to be provided which will be used for running Batch Management Services (EnvMngr, SecMngr and HistQMngr)". Below this are two input fields:
 - User Name
 - Password

- In the **Settings** area, you can configure the following:
 - Select the **Enable Redundancy Support** check box to enable redundancy support for the Batch Management product. For more information, refer to "Enable Redundancy Support".
 - Select the **Enable I/A Component Support** check box to enable I/A components support for the Batch Management product. For more information, refer to "Enable I/A Component Support".
- Under **Service Admin Access**, perform the following:
 - In the **User Name** box, type the name of the user account in the <DomainName>\<UserName> format. This account is used for running the EnvMngr, SecMngr, and HistQMngr services. Ensure that the user account has Administrator privileges.
 - In the **Password** box, type the password for the user account.
- Click **Configure**.

Enable Redundancy Support

This option allows you to configure a Batch Management Redundant system. Both Batch Management Servers involved in a redundant pair require this option to be enabled. Once you have enabled this option, other Batch Management features are updated with parameters related to redundancy and require configuration. To ensure the correct operation of a redundant pair, verify that all the features have been completely and correctly configured.

NOTE: For Batch Management to work in redundant mode in a secured I/A environment, you must set the Service Admin Access Account to a user who has the same rights as the IAServices or IAInstaller users.

Setting Up a Redundant Network

Before you install redundant Batch Management Servers, you must properly configure two computers to interact on the network.

IMPORTANT: Qualified personnel must perform the redundant network configuration.

To configure the redundant pair

- Name the two computers following Batch Management guidelines: standard Windows server names are supported. For more information, see *Host Name Naming Convention*.
- Each computer must have dual network interface cards (NICs) as the redundant pair. The two computers should have identical hardware.
- Configure each computer for the TCP/IP protocol.
- Set up primary and secondary NICs on both computers. Assign proper IP addresses to each NIC.

It is critical that the two addresses assigned to the NICs on a single server are from different networks. This address difference ensures that the network connection is used for communicating the heartbeats. If these addresses differ only at the host level, redundancy does not work properly.

5. Configure the binding order of the NICs under **Network Connections > Advanced > Advanced Settings** so that the primary NIC is at the top of the list and the secondary NIC is on the bottom.
6. In TCP/IP settings, select the **Enable LMHOSTS lookup** check box. As a result, the set of four network addresses are loaded into the lmhosts file.
7. In the Configurator, enter two sets of logical host names for the computers. For example, one computer is BATCHMANAGEMENT1 and BATCHMANAGEMENTA; the other is BATCHMANAGEMENT2 and BATCHMANAGEMENTB. The logical host names for the primary network are 1 and 2. The logical host names for the secondary network are A and B.
8. Make sure that the computers can ping each other by name and they can be pinged by name from a third computer on the same network.
9. Connect the computers with a cross-over cable and then make sure that they can ping each other by IP. The IP should be on a different subnet than the primary NICs. For example, 10.1.1.1 and 10.1.1.2 works very well.
10. Modify the lmhosts file on both computers, and add the entries for the logical names and IPs. For details, see "Editing the Lmhosts File on Redundant Servers".
11. Make sure that the two computers can ping each other by their logical host names.

Enable I/A Component Support

IMPORTANT: This option is only required when using Batch Management with Foxboro I/A Series controllers using IADriver and AIM API. This is the typical configuration when using FoxView as the HMI. This option is not required when using IBMX or IBCli, with Foxboro Control Software (FCS) InTouch HMI or standalone. Enabling this option when not required may cause problems in the application configuration.

I/A components support can be enabled on systems where no I/A Series Software is installed. This allows users to create Batch Management models in non I/A series machines which can later be moved to systems where I/A Series software is installed and Batch Management I/A components are enabled.

Configuring this feature will make specific changes to some components in the Environment Display and other modules of Batch Management. After the feature is configured, the following applications will be available in the Environment Display:

- IADriver
- IALink
- BatchView

Applications created in a system with I/A components enabled will have a different set of files and databases in the Config_A folder as the ones created in a system without I/A components enabled. Due to this difference in the folder content, the models cannot be moved or re-used between I/A and non-I/A component setups. Make sure you have the right features configured before proceeding to create your model.

Additional Requirements for Redundant I/A Systems

I/A Systems also have the following requirements:

- The primary network must be used for communication between the Batch Management clients and the Batch Management Servers. The secondary network is used for the I/A Series control and I/O network (the Mesh control network or the Nodebus). The secondary network is also used for Batch Management Server communication functions, such as to communicate a heartbeat signal and to detect the heartbeat signal of its partner server.

- Hosts – The Hosts file contains I/A Series network information. To ensure communications through NICs that are not on the Nodebus or Mesh network, do not make changes to the Hosts file.
- WINS – The WINS protocol must be unbound from the Nodebus or Mesh NIC.

Editing the Lmhosts File on Redundant Servers

The lmhosts file is located in the following folder on the servers: `... \windows\system32\drivers\etc`.

The lmhosts file contains any aliases and all network addresses of Batch Management Servers.

You must edit the lmhosts file on each redundant server to prevent redundancy manager (RedMgr) from binding an improper IP address.

The names that you use to identify your redundant networks must be different from the computer names. In previous versions of the product, the primary network was identified by the network name of the computer. The only place that the network names should be used is in the host file.

The file content is the same for the master and backup computers. Note that the entries correspond to the entries in the RedCfg file. The #PRE entries cause the entries to be preloaded at system startup. Using #PRE entries is recommended for improved performance.

IP addresses and computer names shown here are examples.

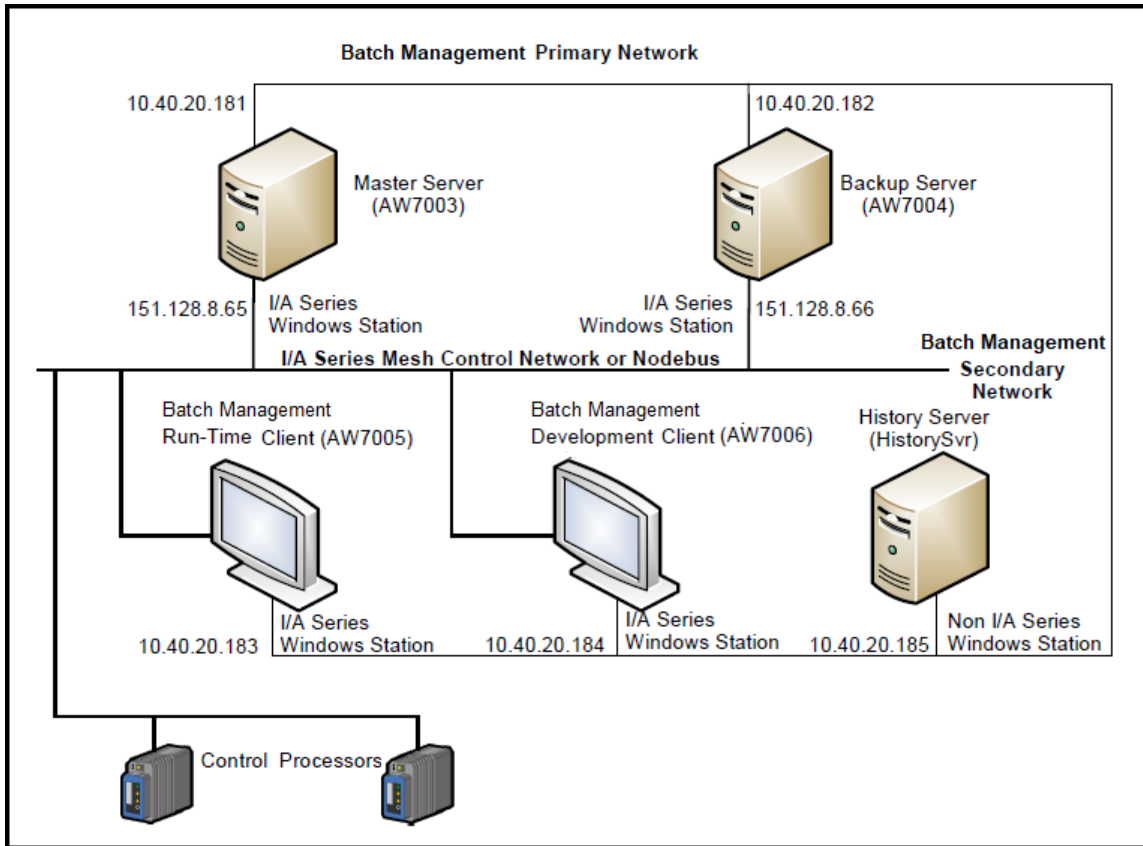
```
10.40.20.75    BatchMaster          #PRE
10.40.20.75    BatchManagement1     #PRE
10.199.199.9   BatchManagementA     #PRE
10.40.20.55    BatchBackup          #PRE
10.40.20.55    BatchManagement2     #PRE
10.199.199.8   BatchManagementB     #PRE
10.40.20.65    RunClient1           #PRE
10.40.20.66    DevClient1           #PRE
10.40.20.67    HistoryServer        #PRE
```

Example Redundant Server Architecture for Batch Management with I/A Series

Use the following architecture example if you are creating a redundant system for Batch Management with I/A Series.

This information consists of specific examples for RedCfg and lmhosts files.

The following figure shows an example configuration for redundancy for I/A Series systems.



RedCfg and Lmhosts File Examples

In the example shown in the previous figure, two computers, AW7003 and AW7004 represent a master server and a backup server.

The computer names and network IP addresses shown in this example are used as the entries in the RedCfg and Lmhosts files. You must substitute the appropriate IP addresses and hostnames as defined by your system administrator.

NOTE: The RedCfg file is created automatically by the Configurator.

RedCfg File Example

The computer named AW7003 would have a RedCfg file as follows:

```
AW7004
<blank line>
\\AW7004\config_A\
<blank line>
AW7003PN
AW7003SN
AW7004PN
AW7004SN
<blank line>
```

The computer named AW7004 would have a RedCfg file as follows:

```
AW7003
<blank line>
\\AW7003\config_A\
```

```
<blank line>
AW7004PN
AW7004SN
AW7003PN
AW7003SN
<blank line>
```

In this example, the names AW7003PN, AW7003SN, AW7004PN, and AW7004SN are defined in the `lmhosts` file on each computer.

RedCfg File Structure

The RedCfg file has the following structure:

Line 1: The remote computer name

Line 2: Blank, not used

Line 3: The path to the remote computer `config_A` directory

Line 4: Blank, not used

Line 5: The local hostname for primary network
(cannot be a computer name)

Line 6: The local hostname for secondary network (blank if not used)

Line 7: The remote hostname for primary network (cannot be a computer name)

Line 8: The remote hostname for secondary network (blank if not used)

Line 9: Blank, not used

NOTE: The last line of the RedCfg file must be blank (that is, a carriage return.) The line numbers shown are for reference only. They are not actually entered in the file.

Lmhosts File

The `lmhosts` file contains the structure described below. The `lmhosts` file is located in the following folder on your computer:

`C:\windows\system32\drivers\etc`

The file is the same for all stations. Note that the names entered correspond to the entries in the RedCfg file. The `#PRE` entries cause the entries to be preloaded when your system is started. Using `PRE` entries is recommended for improved performance.

```
10.40.20.181  AW7003      #PRE
10.40.20.181  AW7003PN    #PRE
151.128.8.65  AW7003SN    #PRE
10.40.20.182  AW7004      #PRE
10.40.20.182  AW7004PN    #PRE
151.128.8.66  AW7004SN    #PRE
10.40.20.183  AW7005      #PRE
10.40.20.184  AW7006      #PRE
10.40.20.185  HistoryServer #PRE
```

Hosts File

The `Hosts` file contains I/A Series network information and is located in the following folder on your computer:

`C:\windows\system32\drivers\etc`

You do not need to change the Hosts file because Batch Management with I/A components software does not use this file.

Configuring the Batch Management Server

You can configure the Batch Management Server with the redundancy support enabled or disabled. Before configuring the Batch Management Server, the Configurator checks whether a supported operating system is installed.

When you configure the Batch Management Server feature, the Configurator does the following:

- Creates the environment variables.
- Creates the Config_A folder. If redundancy support is enabled, the Config_A share folder is created.
- Creates the Batch Management share folder if redundancy support is enabled.
- Creates the RedCfg file if redundancy support is enabled. The details of the primary and secondary redundant server are updated in the file.
- Updates the Windows services file with Batch Management TCP/IP application ports and exceptions.
- Registers the Batch Management Server dll components.
- Updates the Windows firewall settings for Batch Management Server node.
- Starts the Middleware Host service.
- Starts the Batch Management Web Server service. By default, the **Service Status** is "Running" and the **Startup Type** is "Manual". However, the **Startup Type** changes to "Automatic" while configuring the Batch Management Server feature.
- Adds the Batch Management web client site name (`https://<MachineName>` and `https://<MachineName with full domain name>`) to the trusted sites, if the the SSL Certificate is issued to the MachineName.
- Updates the Batch Management Server input values in Windows registry.
- Creates a shortcut for Environment Display on the Start menu.
- Creates a shortcut for Batch Management web client on the Start menu.
- Optionally configures the server to enable ArcestrA Alarms and Events.

Batch Events Prerequisites

You must have the following prerequisites to enable Batch Events:

- System Platform 2014 R2 runtime (or greater) must be installed on the Batch Management Server and an ArcestrA Platform must be deployed before selecting the **Batch Event** check box. Also, the "Batch Management Components for ArcestrA IDE" feature must be installed on the Galaxy Repository/Service Repository node before configuring Batch Events. For more information on the minimum supported version of System Platform, see *Batch Management Readme*.
- For advanced configuration or manual configuration of the Event Service on the Batch Management Server, the ArcestrA IDE can be used to "Configure ArcestrA Services". The "Batch Management Components for ArcestrA IDE" feature must be installed on the ArcestrA IDE node to enable editing of the Event Service. Advanced configuration allows the Event Service port or cache size to be changed.

IMPORTANT: Batch Events must be reconfigured following an upgrade of App Server.

To configure the Batch Management Server without Redundancy Support

1. Open the Configurator.
2. Click **General** in the left pane, clear the **Enable Redundancy Support** check box in the **Settings** area, and then click **Configure**.
3. Click **Server** in the left pane. The configuration options appear in the right pane.

The screenshot shows the 'System Configuration' area of the Batch Management Configurator. It contains the following fields and options:

- System Configuration:**
 - History Server Node Name: [Text Input Field]
 - Reporting Content Node Name: [Text Input Field]
 - (Example: myserver or myserver.mydomain.com)
- Share Batch Management Folder:**
 - Share Batch Management Folder for Remote Development Clients:
- SSL Certificate:**
 - Name: [Dropdown Menu]
- Batch Events:**
 - Batch Events:
 - GR Node Name: [Disabled Text Input Field]
 - Galaxy Name: [Disabled Text Input Field]

4. In the **System Configuration** area, you can configure the following:
 - a. Enter the IP address or the name of the computer, on which you have installed the Batch Management History Server, in the **History Server Node Name** box. For more information on the computer naming conventions, refer to the *Host Name Naming Conventions* topic.
 - b. Enter the name of the computer, on which you have installed the reporting components, in the **Reporting Content Node Name** box. The name cannot be an IP address or localhost and must match the "Issued To" property of the SSL certificate that was used when installing Reporting Content. This is usually the server name or a fully qualified server name. For more information on the computer naming conventions, refer to the *Host Name Naming Conventions* topic.
5. Select the **Share Batch Management Folder for Remote Development Clients** check box to use the Batch Management Remote Development Client. This shared folder is only available to the current logged user with 'Full Control' permissions. After creating the share, you may manually add user permissions (and provide Full Control) for any user you want to be able to access the share.
6. In the **SSL Certificate** area, select the certificate from the **Name** list. You must use the same certificate as specified under the **Certificates** area while configuring the Certificates option.
7. (Optional) If you want to use Batch Events, you can configure it at this point. If you do not want to use Batch Events, proceed to step 8.

NOTE: The Batch Management Server must meet the prerequisites described in "Batch Events Prerequisites".

To configure Batch Events, you can configure the following:

- a. Select the **Batch Events** check box.
- b. Enter the name of the Galaxy Repository/Service Repository computer in the **GR Node Name** box.

- c. Enter the name of the Galaxy whose Platform was deployed locally in the **Galaxy Name** box.

NOTE: If you enter an invalid Galaxy name, Batch Events may still be configured successfully, but your Event Service will not be visible in the **Configure ArcheStrA Services** editor of any Galaxy.

8. Click **Configure**. A green check icon appears in the left pane when Batch Management Server is successfully configured.

To configure the Batch Management Server with Redundancy Support

1. Open the Configurator.
2. Click **General** in the left pane, select the **Enable Redundancy Support** check box in the **Settings** area, and then click **Configure**.
3. Click **Server** in the left pane. The configuration options appear in the right pane.

Redundant System Configuration

Remote Server Node Name

History Server Node Name

Reporting Content Node Name

Remote Web Server Name

(Example: myserver or myserver.mydomain.com)

Share Batch Management Folder

Share Batch Management Folder for Remote Development Clients

Redundant Network Configuration

Local Host Name of Primary Network

Local Host Name of Secondary Network

Remote Host Name of Primary Network

Remote Host Name of Secondary Network

SSL Certificate

Name

Batch Events

GR Node Name

Galaxy Name

NOTE: To enable redundancy support, the computer on which you are configuring Batch Management Server must have at least two network interface cards. Otherwise, the **Local Host Name of Secondary Network** and the **Remote Host Name of Secondary Network** fields are disabled in the Configurator. If you continue with the configuration, the Batch Management Server will function as *Master with invalid backup*.

4. In the **Redundant System Configuration** area, you can configure the following:
 - a. Enter the IP address or the name of the other Batch Management Server in the **Remote Server Node Name** box.

- b. Enter the IP address or the name of the computer, on which you have installed the Batch Management History Server, in the **History Server Node Name** box. For more information on the computer naming conventions, refer to the *Host Name Naming Conventions* topic.
 - c. Enter the name of the computer, on which you have installed the reporting components, in the **Reporting Content Node Name** box. The name cannot be an IP address or localhost and must match the "Issued To" property of the SSL certificate that was used when installing Reporting Content. This is usually the server name or a fully qualified server name. For more information on the computer naming conventions, refer to the *Host Name Naming Conventions* topic.
 - d. Enter the IP address or the name of the remote web server in the **Remote Web Server Name** box.
5. Select the **Share Batch Management Folder for Remote Development Clients** check box to use the Batch Management Remote Development Client. This shared folder is only available to the current logged user with 'Full Control' permissions. After creating the share, you may manually add user permissions (and provide Full Control) for any user you want to be able to access the share.
 6. In the **Redundant Network Configuration** area, you can configure the following:
 - a. Enter the logical host name of the primary network on the local Batch Management Server in the **Local Host Name of Primary Network** box.
 - b. Enter the logical host name of the secondary network on the local Batch Management Server in the **Local Host Name of Secondary Network** box.
 - c. Enter the logical host name of the primary network on the remote Batch Management Server in the **Remote Host Name of Primary Network** box.
 - d. Enter the logical host name of the secondary network on the remote Batch Management Server in the **Remote Host Name of Secondary Network** box.

NOTE: If you reconfigure Batch Management Server, ensure that the Middleware Host service is not running.

7. In the **SSL Certificate** area, select the certificate from the **Name** list. You must use the same certificate as specified under the **Certificates** area while configuring the Certificates option.
8. (Optional) If you want to use Batch Events, you can configure it at this point. If you do not want to use Batch Events, proceed to step 9.

NOTE: The Batch Management Server must meet the prerequisites described in "Batch Events Prerequisites".

To configure Batch Events, you can configure the following:

- a. Select the **Batch Events** check box.
- b. Enter the name of the Galaxy Repository / Service Repository computer in the **GR Node Name** box.
- c. Enter the name of the Galaxy whose Platform was deployed locally in the **Galaxy Name** box.

IMPORTANT: If you enter an invalid Galaxy name, Batch Events may still be configured successfully, but your Event Service will not be visible in the **Configure ArchestrA Services** editor of any Galaxy.

9. Click **Configure**. A green check icon appears in the left pane when Batch Management Server is successfully configured.

Configuring the Batch Management Remote Development Client

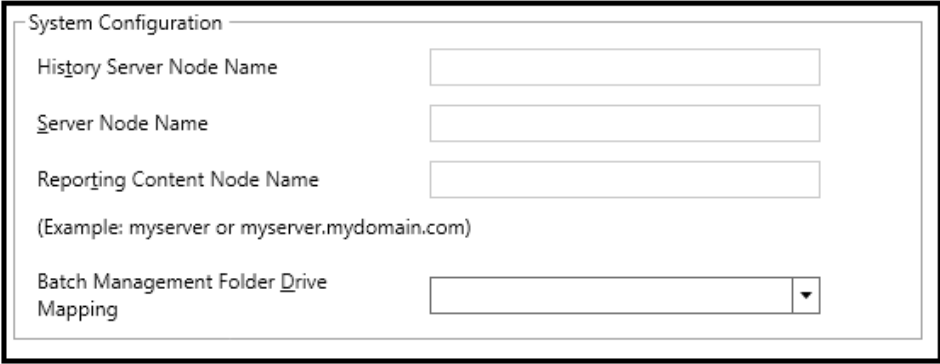
You can configure the Batch Management Remote Development Client with the redundancy support enabled or disabled. Before configuring the Batch Management Remote Development Client, the Configurator checks whether a supported operating system is installed.

When you configure the Batch Management Remote Development Client feature, the Configurator does the following:

- Creates the environment variables.
- Updates the Windows services file with Batch Management TCP/IP application ports and exceptions.
- Registers the Batch Management Development Client dll components.
- Updates the Windows firewall settings for Batch Management Development Client node.
- Maps the Batch Management shared folder to the specified network drive.
- Creates shortcut menu item for Batch Management Development Client:
 - Material Editor
 - Process Log Editor
 - Process Modeling Editor
 - Recipe Compare
 - Recipe Editor
 - Report Editor
 - Security Editor
 - Tag Linker (I/A Linker if system is configured for I/A)
 - Train Editor

To configure the Batch Management Remote Development client without Redundancy Support

1. Open the Configurator.
2. Click **General** in the left pane, clear the **Enable Redundancy Support** check box in the **Settings** area, and then click **Configure**.
3. Click **Remote Development Client** in the left pane. The configuration options appear in the right pane.



System Configuration

History Server Node Name

Server Node Name

Reporting Content Node Name
(Example: myserver or myserver.mydomain.com)

Batch Management Folder Drive Mapping

4. In the **System Configuration** area, you can configure the following:

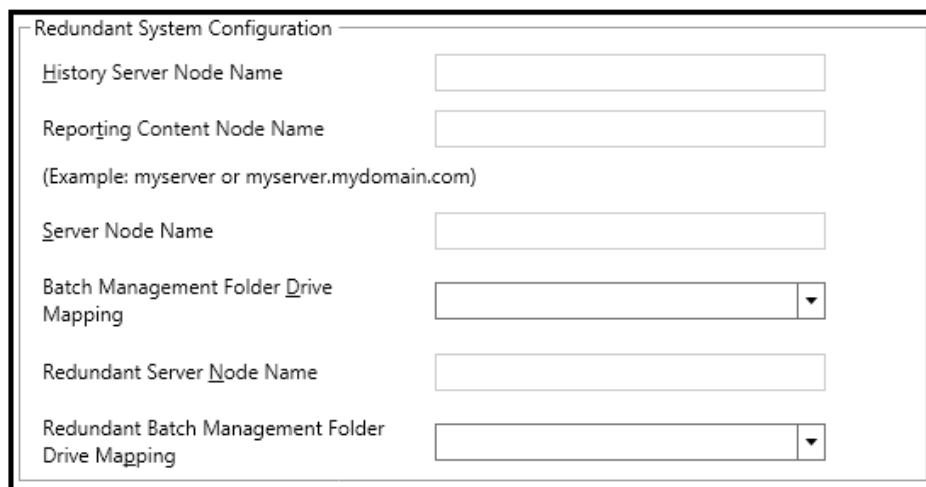
- a. Enter the IP address or the name of the computer, on which you have installed the Batch Management History Server, in the **History Server Node Name** box. For more information on the computer naming conventions, refer to the *Host Name Naming Conventions* topic.
- b. Enter the hostname of the computer, on which you have installed the Batch Management Server, in the **Server Node Name** box. For more information on the computer naming conventions, refer to the *Host Name Naming Conventions* topic.
- c. Enter the name of the computer, on which you have installed the reporting components, in the **Reporting Content Node Name** box. The name cannot be an IP address or localhost and must match the "Issued To" property of the SSL certificate that was used when installing Reporting Content. This is usually the server name or a fully qualified server name. For more information on the computer naming conventions, refer to the *Host Name Naming Conventions* topic.
- d. Select the drive to which you want to map the batch server folder, from the **Batch Management Folder Drive Mapping** list.

NOTE: Ensure that the Batch Management Server folder is shared and that the current user has been given Full Control permission on the share.

5. Click **Configure**. A green check icon appears in the left pane when Batch Management Remote Development Client is successfully configured.

To configure the Batch Management Remote Development client with Redundancy Support

1. Open the Configurator.
2. Click **General** in the left pane, select the **Enable Redundancy Support** check box in the **Settings** area, and then click **Configure**.
3. Click **Remote Development Client** on the left pane. The configuration options appear in the right pane.



Redundant System Configuration

History Server Node Name

Reporting Content Node Name
(Example: myserver or myserver.mydomain.com)

Server Node Name

Batch Management Folder Drive Mapping

Redundant Server Node Name

Redundant Batch Management Folder Drive Mapping

4. In the **Redundant System Configuration** area, you can configure the following:
 - a. Enter the IP address or the name of the computer, on which you have installed the other Batch Management Server, in the **Redundant Server Node Name** box. For more information on the computer naming conventions, refer to the *Host Name Naming Conventions* topic.
 - b. Select the drive to which you want to map the redundant server folder, from the **Redundant Batch Management Folder Drive Mapping** list.

For configuring other fields, refer "To configure the Batch Management Remote Development client without Redundancy Support".

IMPORTANT: If you reconfigure Batch Management Remote Development Client, the Configurator will stop History Queue Manager.

5. Click **Configure**. A green check icon appears in the left pane when Batch Management Remote Development Client is successfully configured.

Configuring the Batch Management Remote Runtime Client

You can configure the Batch Management Remote Runtime Client with the redundancy support enabled or disabled. Before configuring the Batch Management Remote Runtime Client, the Configurator checks whether a supported operating system is installed.

When you configure the Batch Management Remote Runtime Client feature, the Configurator does the following:

- Creates the environment variables.
- Updates the Windows services file with Batch Management TCP/IP application ports and exceptions.
- Registers the Batch Management Runtime Client dll components.
- Updates the Windows firewall settings for Batch Management Runtime Client node.
- Starts the History Queue Manager service.
- Creates shortcut menu item for Batch Management Runtime Client.
 - Batch Display
 - Batch Scheduler
 - Batch Management web client

After you configure the Batch Management Remote Runtime Client, the Batch Scheduler and the Batch Display components are linked to the primary Batch Management Server.

To configure the Batch Management Remote Runtime Client without Redundancy Support

1. Open the Configurator.
2. Click **General** in the left pane, clear the **Enable Redundancy Support** check box in the **Settings** area, and then click **Configure**.
3. Click **Remote Runtime Client** in the right pane. The configuration options appear in the right pane.

The screenshot shows a configuration window with the following fields:

- System Configuration**
 - History Server Node Name
 - Server Node Name
- Batch Web Server**
 - Batch Web Server Name

(Example: myserver or myserver.mydomain.com)

4. In the **System Configuration** area, you can configure the following:
 - a. Enter the IP address or the name of the computer, on which you have installed the Batch Management History Server, in the **History Server Node Name** box. For more information on the computer naming conventions, refer to the *Host Name Naming Conventions* topic.

- b. Enter the IP address or the name of the computer, on which you have installed the Batch Management Server, in the **Server Node Name** box. For more information on the computer naming conventions, refer to the *Host Name Naming Conventions* topic.
5. In the **Batch Web Server** area, enter the IP address or the name of the computer, in the **Batch Web Server Name** box. Ensure to enter the Batch Server name used in the SSL Certificate, which is issued to the server for accessing the web client.
6. Click **Configure**. A green check icon appears in the left pane when Batch Management Remote Runtime Client is successfully configured.

To configure the Batch Management Remote Runtime Client with Redundancy Support

1. Open the Configurator.
2. Click **General** in the left pane, select the **Enable Redundancy Support** check box in the **Settings** area, and then click **Configure**.
3. Click **Remote Runtime Client** in the right pane. The configuration options appear in the right pane.

The screenshot shows a configuration window with two main sections:

- Redundant System Configuration:**
 - History Server Node Name:
 - Server Node Name:
 - Redundant Server Node Name:
- Redundant Batch Web Server:**
 - Batch Web Server Name:
(Example: myserver or myserver.mydomain.com)
 - Redundant Batch Web Server Name:
(Example: myserver or myserver.mydomain.com)

4. In the **Redundant System Configuration** area, enter the IP address or the name of the computer, in the **Redundant Server Node Name** box. This is the computer on which you have installed the other Batch Management Server. For more information on the computer naming conventions, refer to the *Host Name Naming Conventions* topic.
5. In the **Redundant Batch Web Server** area, enter the IP address or the name of the computer, in the **Redundant Batch Web Server Name** box. Ensure to enter the redundant Batch Server name used in the SSL Certificate, which is issued to the server for accessing the web client.

For configuring other fields, see "To configure the Batch Management Remote Runtime Client without Redundancy Support".

IMPORTANT: If you reconfigure Batch Management Remote Runtime Client, the Configurator will stop History Queue Manager.

6. Click **Configure**. A green check icon appears in the left pane when Batch Management Remote Runtime Client is successfully configured.

After you configure the Batch Management Remote Runtime Client, you can use the Batch Management ActiveX controls in InTouch®.

Configuring the Batch Management History Server

You can configure the Batch Management History Server with the redundancy support enabled or disabled. The Configurator checks whether the following prerequisites are installed, before configuring the Batch Management History Server:

- A supported version of SQL Server
- A supported version of IIS

NOTE: If any of the required IIS components are missing, a warning message appears in the **Configuration Messages** area. You can install the missing prerequisites during configuration.

When you configure the Batch Management History Server feature, the Configurator does the following:

- Configures logins, system alarms, and system categories for the SQL Server.
- Creates the environment variables.
- Updates the Windows services file with Batch Management TCP/IP application ports and exceptions.
- Registers the Batch Management History Server dll components.
- Updates the Windows firewall settings for Batch Management History Server node.
- Creates a new IIS Application Pool "InBatchAppPool".
- Creates the virtual directory "BatchAdmin".
- Retrieves the Batch Management site name and adds it to the trusted sites, if it is unsecure.
- Starts the Batch Management History Queue Reader service.
- Creates Batch Management History and Batch Management Archive SQL databases.
- Creates Batch Management Archive Template for Batch Management History Admin Archive/Purge/Restore functionality.
- Adds a File Server role.
- Adds an Application Server role.
- Allows the Active Server Pages in the IIS Web Service Extensions.
- Enables the **Enable Parent Paths** option in IIS for the AdminWeb and Batch ManagementReports websites. If you upgrade to the latest version of Batch Management from any previous versions, the website name is updated from "InBatchReports" to "Batch ManagementReports".
- Creates a shortcut for History Database Administration on the Start menu.
- Drops the pre-defined users (BatchAdminUser, BatchUser, and BatchReportAdmin) from the BatchHistory and BatchArchive databases if a pre-11.0 upgrade is detected, and the new Service DB Access is assigned to BatchHistory and BatchArchive databases.
- Creates the InBatchAppPool and set to run as the same user (identity) as HistQReader - so that it has read/write access to BatchHistory and BatchArchive databases. The Application Pool user should have as few OS privileges as possible. For more information, see "Application Pool User Privileges".

To configure the Batch Management History Server without Redundancy Support

1. Open the Configurator.
2. Click **General** in the left pane, clear the **Enable Redundancy Support** check box in the **Settings** area, and then click **Configure**.

3. Click **History Server** in the left pane. The configuration options appear in the right pane.

The screenshot displays the configuration interface for the History Server. It is organized into several sections:

- System Configuration:** Contains three text input fields:
 - Server Node Name: localhost
 - History Database Name: BatchHistory
 - Archive Database Name: BatchArchive
- DB Creation/Upgrade - SQL Login Information (SQL sysadmin - installation only):** Contains:
 - SQL Server Instance Name: (empty text box)
 - Authentication options: Windows Authentication and SQL Server Authentication
 - User Name: (blacked out text box)
 - Password: (blacked out text box)
- Service DB Access - Integrated SQL Login Information (HistoryDB read/write - Web & HistQReader):** Contains:
 - User Name: (empty text box)
 - Password: (empty text box)
- Database Configuration:** Contains two checkboxes:
 - Use Existing History Database:
 - Use Existing Archive Database:
- SSL Certificate:** Contains a dropdown menu for Name.

4. In the **System Configuration** area, you can configure the following:

NOTE: The **System Configuration** fields are automatically populated with the default values.

- a. Enter the IP address or the name of the computer, on which you have installed the Batch Management Server, in the **Server Node Name** box. For more information on the computer naming conventions, see *Host Name Naming Conventions*.
 - b. Enter the name of the history database in the **History Database Name** box.
 - c. Enter the name of the archive database in the **Archive Database Name** box.
5. In the **DB Creation/Upgrade - SQL Login Information (SQL sysadmin - installation only)** area, you can configure one of the following:
- a. In the **SQL Server Instance Name** box, specify the named instances of SQL for local host or the remote server.
 - b. Click **Windows Authentication** to use the interactive user's account.
- Or
- Click **SQL Server Authentication** and specify the **User Name** and the **Password**. This connection information is used only for completing the configuration and is not stored.

NOTE: A connection with the default instance of SQL Server on local machine is established, using the specified credentials. This connection is used to perform administrative tasks on the databases.

IMPORTANT: The user specified in **DB Creation/Upgrade - SQL login Information** area must have privileges to add the Service DB Access user login to SQL Server and grant it read/write access to the BatchHistory and BatchArchive databases.

6. In the **Service DB Access - Integrated SQL Login Information (HistoryDB read/write - Web & HistQReader)** area, you can configure the following:
- Enter the name of the Service DB access user name in the **User Name** box. The Service DB Access user is used to run the HistQReader service. The HistQReader service Log-On As account will be set to this user and connect to BatchHistory database using integrated authentication in SQL. This user is also used to run the History Administration web application (AppPool user).

NOTE: The Service DB Access User has to be a domain or a local user. This cannot be a standard SQL Server user. If you plan on accessing the Batch Management History Administration web site as a domain user, then this user also needs to be a domain user. If this user's credentials ever change, you will need to rerun Configurator.

- Enter the password in the **Password** box.
7. In the **Database Configuration** area, you can configure the following:
- Select the **Use Existing History Database** check box to use an existing history database. Clear the check box to create a new history database.
 - Select the **Use Existing Archive Database** check box to use an existing archive database. Clear the check box to create a new archive database.

NOTE: If the Configurator detects an older version of the database, you must select the above check boxes to upgrade the database to the latest version of Batch Management.

If you want to use an existing database, the Configurator upgrades the following:

- For History Database - Tables, Views, and StoredProcedures
- For Archive Database - Tables
- The Service DB access User (if it does not already exist)

If you want to configure a new database, the Configurator creates the following:

- Database (BatchHistory/BatchArchive)
 - Users
 - Roles
 - Schema
 - Defaults
 - UserDefinedDataTypes
 - Tables
 - Views
 - StoredProcedures
8. In the **SSL Certificate** section, select the existing self-signed certificate from the **Name** drop down box.
9. Click **Configure**. A green check icon appears in the left pane when Batch Management History Server is successfully configured.

To configure the Batch Management History Server with Redundancy Support

1. Open the Configurator.
2. Click **General** in the left pane, select the **Enable Redundancy Support** check box in the **Settings** pane, and then click **Configure**.
3. Click **History Server** on the left pane. The configuration options appear in the right pane.

Redundant System Configuration

Server Node Name

Redundant Server Node Name

History Database Name

Archive Database Name

DB Creation/Upgrade - SQL Login Information (SQL sysadmin – installation only)

SQL Server Instance Name

Windows Authentication SQL Server Authentication

User Name

Password

Service DB Access – Integrated SQL Login Information
(HistoryDB read/write – Web & HistQReader)

User Name

Password

Database Configuration

Use Existing History Database

Use Existing Archive Database

SSL Certificate

Name

4. In the **Redundant System Configuration** area, enter the IP address or the name of the computer, on which you have installed the other Batch Management Server, in the **Redundant Server Node Name** box.

For more information on the computer naming conventions, refer to the *Host Name Naming Conventions* topic.

For configuring other fields, see "To configure the Batch Management History Server without Redundancy Support".

5. Click **Configure**. A green check icon appears in the left pane when Batch Management History Server is successfully configured.

Configuring the Batch Management Reporting Content

You can generate the Batch Management reports using the shared datasource in SQL Server Reporting services named "ibReports". These reports are generated from the Batch Management History Database and optionally the InTouch or Historian Traditional SQL Alarm Database (WWALMDB or A2ALMDB). In order to execute the reports, these databases must have data sources defined. The History Data Source is required, but the Alarm Data Source is optional (I/A configurations will typically not use the Alarm Data Source).

The Configurator checks whether the following prerequisites are installed, before configuring the Batch Management History Server:

- A supported version of IIS

NOTE: If any of the required IIS components are missing, a warning message appears in the **Configuration Messages** area. You can install the missing prerequisites during configuration.

- A supported version of SQL Server Reporting Services is installed, configured, and accessible. To verify this, you typically should be able to navigate to <http://<hostname>/reports> without error (or https).

When you configure the Batch Management Reporting Content feature, the Configurator does the following:

- Loads the existing 'Production' Shared data sources in the Data source combo box
- Create Shared Data Source in SSRS named 'ibReports' for Batch Management Reporting. Batch Management Reports will fetch data from Batch History database using this shared data source.
- Set the Batch Management Reporting service to the application pool account. This will enable the service to run under the same account. Restart the "BatchManagement_ReportQueueReader" service.
- Deploys I/A Alarm reporting content, if I/A component support is enabled.
- Creates ibReportsUsers OS groups and assigns 'Browser' pre-defined SSRS role.
- Creates the environment variables.
- Starts the Report Queue Reader service.
- Creates the InBatchReportsAppPool and sets to run as the same user (identity) as ReportQueueReader – so that it has read/write access to the BatchHistory database. The Application Pool user should have as few OS privileges as possible. For more information, see "Application Pool User Privileges".
- Copies the BatchTimeExtensions.dll from "**C:\Program Files\Wonderware\Batch Management\Bin**" to "**C:\Program Files\Microsoft SQL Server\MSRS12.MSSQLSERVER\Reporting Services\ReportServer\bin**" in Report Server computer. The SQL Server instance varies based on the SQL Server version and SQL Server instance.

NOTE: In the case of the remote computer, you need to manually copy "BatchTimeExtensions.dll" file from "C:\Program Files\Wonderware\Batch Management\Bin" to "C:\Program Files\Microsoft SQL Server\MSRS12.MSSQLSERVER\Reporting Services\ReportServer\bin" location before configuring Reporting Content with remote computer for SSRS SQL Server.

- Creates the Reports folder in the Reporting service url (<http://<localhostname>\BatchManagement Reports>), where the reports (.rdl) templates are deployed.

If you upgrade to the latest version of Batch Management from any previous versions, the url is updated from <http://<localhostname>\InBatch Reports> to <http://<localhostname>\BatchManagement Reports>.

IMPORTANT:

- Ensure you verify that the SSRS home page is working correctly before you configure the Batch Management Reporting feature.
- If the Batch Management Reporting Content Configuration times out for the first time, try the configuration again. Or refer to the SSRS documentation for more details.
- We recommend that you delete any existing "Batch Management Reports" under SSRS, before you configure the Batch Management Reports. If you upgrade to the latest version of Batch Management from any previous versions, the Reports folder name is updated from "InBatch Reports" to "Batch Management Reports".

To configure the Batch Management Reporting Content

1. Click **Reporting Content** in the left pane. The configuration options appear in the right pane.

2. In the **System Configuration** area, you can configure the following:
 - a. Enter the IP address or the name of the computer, on which you have installed the Batch Management Server, in the **Server Node Name** box.
 - b. Enter the SQL Server instance name in the **History Server SQL Instance Name** box.
 - c. Enter the name of the history server database in the **History Database Name** box.

3. In the **History Database Modification - SQL Login Information (SQL sysadmin - installation only)** area, you can configure the following:
 - Click **Windows Authentication** to use the interactive user's account.
 - Click **SQL Server Authentication** and specify the **User Name** and the **Password**. This connection information is used only for completing the configuration.

4. In the **SQL Server Reporting Service (SSRS)** area, specify the named instance of SQL Server.

NOTE: The specified credentials are used to establish a connection with the default instance of SQL Server on localhost or remote host. This connection is used to perform administrative tasks on the databases.

5. In the **Service DB Access-Integrated SQL Login Information (HistoryDB read/write -Web & ReportQReader)** area, you can configure the following:
 - a. Enter the name of the Service DB access user name in the **User Name** box. The Service DB Access user is used to run the ReportQueReader service. The ReportQueReader service Log-On As account will be set to this user and connect to BatchHistory database using integrated authentication in SQL. This user is also used to run the Report Administration and Report Display web applications (AppPool user).
 - b. Enter the password in the **Password** box.

NOTE: The Service DB Access User has to be a domain or a local user. This cannot be a standard SQL Server user. If you plan on accessing the Batch Management Report Administration web site as a domain user, then this user also needs to be a domain user. It is typically the same user used for the History Server feature. If this user's credentials ever change, you will need to rerun Configurator.

6. In the **History Data Source Configuration** area, the History database name is displayed. This is the same database which is used while configuring the Batch Management History Server. Click **Details** to view the History database server name and the History database name.
7. In the **Alarm Data Source Configuration** area, the alarm data source details are displayed. You can click **Details** to define a new one. For more information, see "Defining a New Alarm Data Source".
8. In the **SSL Certificate** section, select the existing self-signed certificate from the **Name** drop down box. In this manner, the History Server and Reporting Content websites can be set up to use the same certificate that was already configured.
9. Click **Configure**. A green check icon appears in the left pane when Batch Management Reporting Content is successfully configured.

Defining a New Batch Management History Data Source

You can define a new history data source using the Configurator.

If SSRS is on a different node than the Batch Management HistoryDB and if you want to configure a data source to use Windows authentication, you must set up delegation between the SSRS server and the back end Batch Management History server. This is done on the domain controller.

For more information, refer to the Microsoft web site for "Configuring Linked Servers for Delegation".

To define a new history data source

1. In the **History Data Source Configuration** area, click **Details**. The **History Data Source Details** dialog box appears.

2. In the **Data Source Details** area, you can:
 - a. Enter the IP address or the name of the computer that hosts the history database server, in the **Database Server SQL Instance Name** box. For more information on the computer naming conventions, refer to the *Host Name Naming Convention* topic.
 - b. Enter **BatchHistory** in the **Database Name** box (or specify the name of your History database if it is different).
3. In the **SQL Login Information** area, you must specify the credentials to connect to the history database. Do one of the following:
 - Click **Windows Authentication** to use the interactive user's account.
 - Click **SQL Server Authentication** and specify the **User Name** and the **Password**. This connection information is used only for completing the configuration.
4. Click **Save**.

Defining a New Alarm Data Source

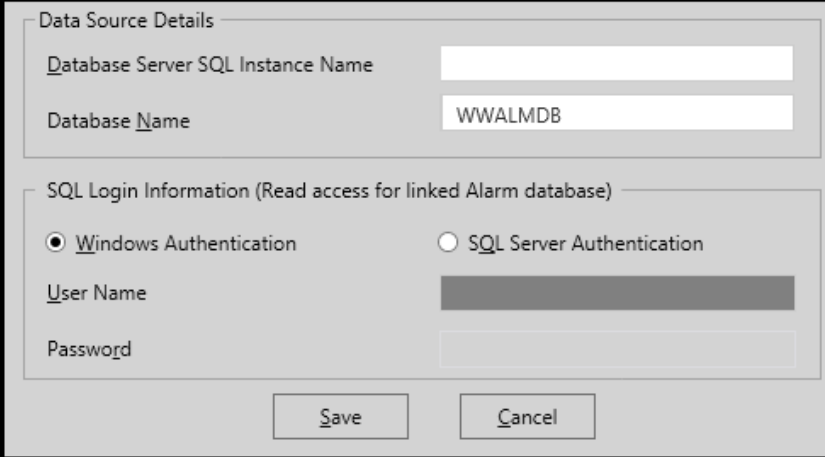
You can define a new alarm data source using the Configurator.

If the Alarm Database is on a different node than the Batch Management History Database and if you want to configure a data source to use Windows authentication, you must set up delegation between the Batch Management History server and the back end Alarm Database server. This is done on the domain controller.

For more information, refer to the Microsoft web site for "Configuring Linked Servers for Delegation".

To define a new alarm data source

1. In the **Alarm Data Source Configuration** area, click **Details**. The **Alarm DataSource** dialog box appears.



2. In the **Data Source Details** area, you can:
 - a. Enter the IP address or the name of the computer that hosts the alarm database server, in the **Database Server SQL Instance Name** box.
 - b. Enter WWALMDB or A2ALMDB in the **Database Name** box (or specify the name of your Alarm database if it is different). For more information on the computer naming conventions, refer to the *Host Name Naming Convention* topic.
3. In the **SQL Login Information** area, you must specify the credentials to connect to the alarm database. Do one of the following:
 - Click **Windows Authentication** to use the interactive user's account.
 - Click **SQL Server Authentication** and specify the **User Name** and the **Password**. This connection information is stored securely in the SSRS data source.
4. Click **Save**.

Managing Licenses

Batch Management enforces licensing through AVEVA Enterprise License Manager.. For more information on AVEVA Enterprise Licensing, refer to the AVEVA Enterprise License Platform Guide.

Batch Management employs the following types of licensing:

- **Server Licensing:** A Batch Management Server license is requested when a user starts the Batch Management Server.

Batch Management Server License is categorized into the following types based on the unit count supported:

- Large
 - Medium
 - Small
- **Development Client Licensing:** A Batch Management Development Client license is requested when a user starts a development client.

- **MOM Client Licensing:** A Manufacturing Operations Client Connection (MOM Client) license is requested when a user starts a runtime client.

Scenarios for Product and Connection License

Acquiring License

- When Environment Display is launched, the Security Manager acquires a Batch Management Server license.
- Development and Runtime clients send license requests to Security Manager for acquiring the Batch Management client license.
- Remote clients communicate with the Security Manager in the Batch Management Server machine.
- A single Development Client connection license is consumed for all development client applications (including automation servers), which are opened from the same node.
- A single MOM Client connection license is consumed for all runtime client applications, which are opened from the same node. These runtime client applications can be from any of the products such as Batch Management, MES, or Skelta BPM.
- All active client connections are maintained in the Security Manager. A timer refreshes the connection license for active development and runtime client connections, at an interval of five minutes.

Releasing License

- A Development Client connection license gets released on closing the last development client in a particular node.
- An MOM Client connection license gets released on closing the last runtime client on that node.
- The Batch Management Server license gets released when a user performs "Exit and Shutdown" of Environment Display.

Server License

When you launch Environment Display, the Batch Management services such as EnvMngr, HistQMngr, SecMngr, and so on get started.

Acquiring Server License

When the SecMngr service starts, it requests the Batch Management Server license (product license) from the configured license server. Once the server license gets acquired successfully, the Environment Display launches.

When you click "Exit" on the Environment Display, (instead of "Exit and Shutdown"), the view is closed. However, the Batch Management services are still running in the background. Therefore, the server license still remains acquired. When you launch the Environment Display again, it just verifies the product license status.

Server License Acquisition Failure

If there is a failure in acquiring server license, an error message appears in a message box and in the SMC logger. All the Batch Management services are in the "Stopped" state and the Environment Display is not launched.

Releasing Server License

When you click “Exit and Shutdown” in the Environment Display, the SecMngr service gets stopped and the server license gets released. The license also gets released when the SecMngr service is stopped at any point in time.

Client Connection Licenses based on Terminal Server Session

Each Terminal Server session consumes a client connection license, irrespective of whether it is launched by the same user or a different user from different host machines. Only one client license is consumed whenever more than one development client or more than one run time client is connected on a Terminal Server session.

Scenarios

The development clients and/or runtime clients of Batch Management get installed on the Operating systems, which support terminal services. Any user from any host machine could access the Batch Management clients by launching these terminal server sessions of this machine.

Let us consider that the Batch Management Client is "BMC1" and the host machines are "HOST1" and "HOST2".

- When you launch a terminal server session on a machine where development and/or runtime clients are installed, a Batch Management Development Client connection license or a MOM client connection license is consumed for each terminal server session. The Device ID in the license server is displayed in the following format:

HOST1_BMC1

- If you launch two Terminal Server sessions to the same machine from the same host (either with same user/different user), then a maximum of one Development client connection license for development clients and one MOM client connection license for runtime clients are consumed.
- If you use development client of BMC1 by launching Terminal Server session of BMC1 from HOST1, and Terminal Server session of BMC1 from HOST2 (either with same user/different user), then two client connection licenses are consumed as follows:

HOST1_BMC1

HOST2_BMC1

- If you use development client of BMC1 by launching Terminal Server session of BMC1 from HOST1 and Terminal Server session of BMC1 from HOST1 (either with same user/different user), then one client connection license is consumed as follows:

HOST1_BMC1

Checking Batch Management Unit Count

The license file for Batch Management Server defines a mapping to the unit count that is permitted to be used.

When the IBCLi and IBMX services are started, the services read the unit count from the Batch Management model and compare with the unit count available in the license file. If the model unit count exceeds the license unit count, then the following warning is logged in the SMC logger and the service is not started.

The number of units defined in the model exceeds the predefined number of units available in the license!

Refreshing Server and Client Connection Licenses

If any development or runtime clients are active, the SecMngr service monitors the active connections. The SecMngr service refreshes the client and server connections at an interval of 5 minutes and 24 hours respectively.

Batch Management IA System

- When a Batch Management Server is used in an IA environment, it consumes the server license and Batch Management clients also consume the connection licenses.
- When the IA editor is open, it consumes the Batch Management Development Client connection license.

Host Name Naming Convention

The following section describes the best practices for naming the host names for the Batch Management Server and the Batch Management Redundant Server.

The host name for the Batch Management Server accepts the following characters and length constraint for computer name.

Characters constraints

- All letters A-Z and a-z are accepted.
- Special character – (hyphen) is accepted. All other special characters are not accepted.
- Batch Management works fine with all the accepted characters.

Length constraint

- Operating System accepts computer name of up to 63 characters.
- Batch Management Server:
 - No issues occur when computer name is ≤ 39 characters.
 - If the computer name is ≥ 40 characters, error occurs while starting Environment Display.
- The length of the Redundant pair computer name must be less than or equal to 12 characters.

For more information, see

<https://support.microsoft.com/en-us/help/909264/naming-conventions-in-active-directory-for-computers,-domains,-sites,-and-ous>.