ePproductivity Software

Auto-Count Software Installation Guide

Version 19.1
2025

ePproductivity Software

Auto-Count 4D | Software Installation Guide

October 2025 | Auto-Count 4D Version 19.1

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Introduction

Thank you for purchasing the Auto-Count® system (Auto-Count). Now that you have made the decision to use our software to help manage your business, there are several steps to be performed to make your new system operational. We understand this is a change for your business and have put together documentation to guide you.

About This Guide

This guide was designed for the system administrator or person at your plant responsible for installing and implementing Auto-Count. Use this guide to install your DMI hardware kit and its components, the Plant Manager software, and finally the Auto-Count software. Please review this entire guide before you begin the installation process.

Notes If you are upgrading (not installing as new) your current Plant Manager and Auto-Count software, see "Appendix A" for instructions on how to upgrade your current system.

If you are a Monarch Foundation user, please set aside this installation guide at this time and, instead, obtain and follow the steps within the *Auto-Count and Monarch Foundation Integration Guide* to install and set up Plant Manager and Auto-Count.

Additional Sources

The following resources provide additional information.

- *Auto-Count Requirements Guide:* This guide details the software and hardware requirements for a successful installation.
- *Auto Hardware Installation Guide:* This guide provides details on how to set up and install the DMI hardware components of the Auto-Count installation.
- *Auto-Count 4D Scales – Set Up & User Guide:* Learn how to set up and use scales. Auto-Count 4D supports scales for weigh waste (slab scales) from infeeds (Auto-Count 4D Advanced only) and scales on individual outputs and outfeeds.
- *Plant Manager & Auto-Count Setup Guide*: This guide walks you through the basic set up needed to use Auto-Count 4D. It explains all the options available in Plant Manager.
- *Auto-Count User Guide*: This guide describes the user interface and common workflows and features of AC4D.
- *eSP Enabling Apps – Large Facility Guide*: This guide will help assist large installations fine-tune settings for peak performance.
- Online Help: Our products also contain online help to guide you through the user interface.

Contact Information

ePS Support		
Web Site:	https://communities.epssw.com	Read knowledgebase articles, stay up to date on the latest release information and enter support cases.
E-Mail:	dmi.support@epssw.com	Contact the product-specific support team.
Documentation Portal:	https://epsdoc.myprintdesk.net/DSF/	Download ePS documentation.

Note For problems involving infrastructure (i.e., computers, networks, operating systems, backup software, printers, third-party software, etc.), contact the appropriate vendor. We cannot support these types of issues.

Getting Started

What is Auto-Count?

The Auto-Count product line is a set of computer-based applications designed to provide a Direct Machine Interface (DMI) from your management information system to a variety of printing production equipment. The Auto-Count system automatically pulls production data directly from your presses and finishing equipment, giving you a real-time overview of production and productivity. You can monitor production in real time, track how much product is being created, and observe where waste is occurring. The Auto-Count 4D product is a web-based application that can be used on most browsers.

Plant Manager

Plant Manager is a configuration tool used to set up and maintain your Auto-Count machines and associated items like Groups and Operation Codes which are stored in the Plant Manager SQL database. For stand-alone versions (for non- MIS users), Plant Manager is also used to create jobs and forms necessary information needed to create a job such as machine configuration, employees, customers, etc. Once you create a job, it is automatically sent to the Auto-Count Job Run List.

Auto-Count 4D

Auto-Count 4D is the next generation shop floor production intelligence platform that allows you automatically collect accurate, up-to-the minute production data including counts, press status, speed and other critical information directly from your equipment in real time. Auto-Count 4D fully integrates with the primary MIS/ ERP solutions, scheduling solutions and Fiery (via Plant Manager) to provide ease of use and full compatibility with your data management solution.

Software Requirements

Please review the *Auto-Count Requirements Guide* for all software requirements before proceeding with the installation. This guide lists the server and client computer requirements along with port assignments.

Integrations to MIS Systems

If you are integrating Auto-Count with an ePS MIS system or business solution (for example Radius, Monarch, Pace, Technique, etc), please consult the MIS specific integration guides to learn how to configure Plant Manager for that system.

Installing Plant Manager

Prerequisites

The installation wizard can install the Plant Manager components all at once so please read the prerequisites for each component before starting the installation.

Warning You must have SQL Server administrative rights (Database Owner rights) to install/upgrade Plant Manager.

If you install SQL Express and need to Restore a backup that is larger than 10GB, then you must first install the full version of SQL Server before you perform a database restore.

Note For recommended Security Settings, please contact ePS Services.

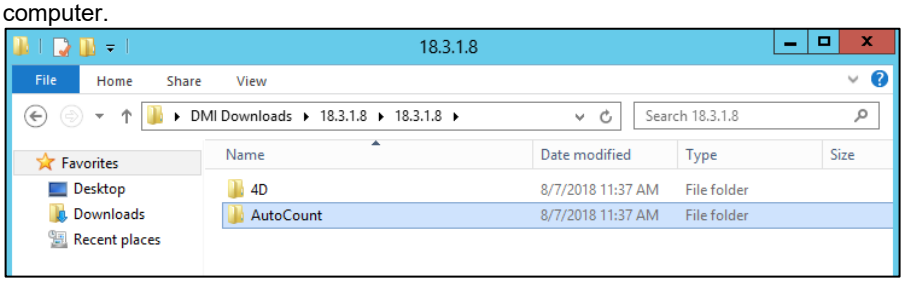
Plant Manager Admin

Plant Manager is the utility which maintains the database for Auto-Count. You must first install Plant Manager before installing Auto-Count. There are three parts to installing Plant Manager: Plant Manager Admin, Plant Manager Services and Plant Manager. Install Plant Manager Admin and Services on your SQL Server and Plant Manager on either your SQL Server or another application server. We recommend you install only Plant Manager Admin on the server where your Plant Manager database resides. On another server you should install Plant Manager (includes Plant Manager Connector service), Plant Manager Web, Report Service, and AC4D machines.

Note Plant Manager requires Microsoft SQL Server Standard, Enterprise, or Express editions. When installing SQL Server, set the Server Authentication mode to SQL Server and Windows Authentication. Please refer to the *Auto-Count Requirements Guide* for full details.

Note For international users, if your language does not use a Latin-1 character set (ISO 8859-1), you must obtain a properly collated database before you install or upgrade. Please contact Support to obtain the proper database or if you have questions.

- Obtain the latest installation files from your ePS representative and copy them to your SQL Server computer.



Plant Manager Connector and Importer Services

The Plant Manager Connector and Importer Services consist of the Plant Manager Connector application and the Plant Manager Importer. The Plant Manager Connector application is run as a service and connects to the Plant Manager database. It facilitates communication between Plant Manager and MIS systems. The Plant Manager Importer Service is a connector between Auto-Count and Plant Manager.

Note Stand-alone installations do not need to install the Connector and Importer services.

- The Connector should be installed on the server hosting the Plant Manager SQL database.
- (*Monarch MIS*) The Monarch Gateway service should be installed and running.
- (*Pace and Radius MIS*) Install the Pace or Radius MIS system and comply with their integration prerequisites.
- You must run the installation application as an Administrator user.
- If you currently have Plant Manager Admin, ensure it is installed and/or upgraded.
- If you are upgrading from Auto-Count v13.x, you must uninstall Plant Manager Connector before installing the latest version.

Port Assignments

For security reasons your Network Administrator may need the port assignments used by the Plant Manager Browser. You will find this information below.

Auto-Count 4D and Plant Manager

- **Auto-Count 4D:** port 80 for UI (http) and 4200 upwards for web-sockets between 4D service and browser one port for each 4D service. For example, the first 4D uses 4201, second uses 4202, etc.
- **Plant Manager Browser:** Port 80 http
- **Plant Manager Web:** Port 5000
- **Report Service**: Port 80 http

  The Report Server listens on http://server:80/Reporting.Service/ReportServiceWCF/ hosting a WCF service using port 80 (it hooks in under IIS and this port is configurable). It also streams to localhost port 24976 for the recently enabled logging and the helper UI. This port is configurable.
- **Plant Manager Connector**: Port 80 http

  By default, the PLM Connector listens on a URL http://server:80/PlantManagerConnector/ using port 80 (it hooks in under IIS and this port is configurable). It also streams to localhost port 24976 to enable logging and a helper UI. This port will also be configurable.
- **Service Discovery**:

  Any product using the Service Discovery DLL (including PLM Connector, Report Server and PLMB) uses UDP multicast. The default multicast address is "239.69.70.73" on port 38167. (239.x.x.x is the private range reserved for internal organizational use. The default address uses 239 and the ASCII char codes for ePS = 69,70,73).

Auto-Count Port Assignments

Auto-Count assigns the following ports automatically. The port type is TCP unless noted.

Incoming

7000 Paper Monitor from AC (*UDP type*)

6970 Auto-Count from Slave AC

Outgoing

2000 Scale board A to D data streaming

2002 Scale board setup

2001 DMI Kit

7000 Auto-Count to Paper Monitor

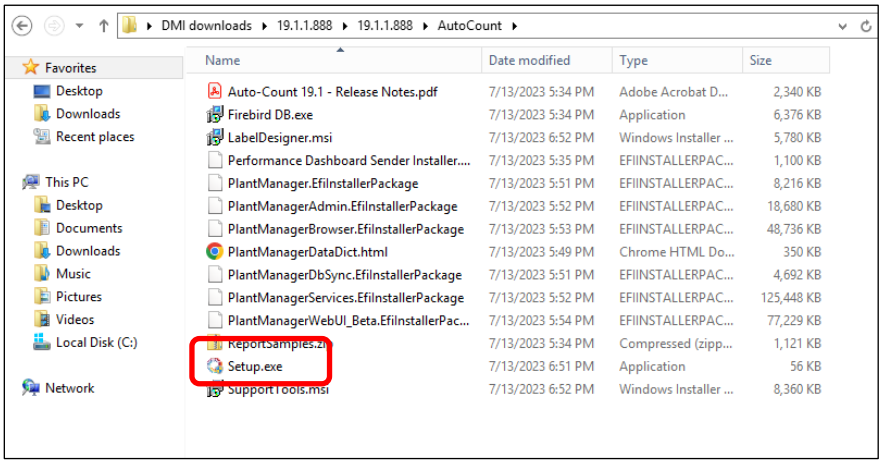
6970 Auto-Count to Slave AC

Installing Plant Manager Components

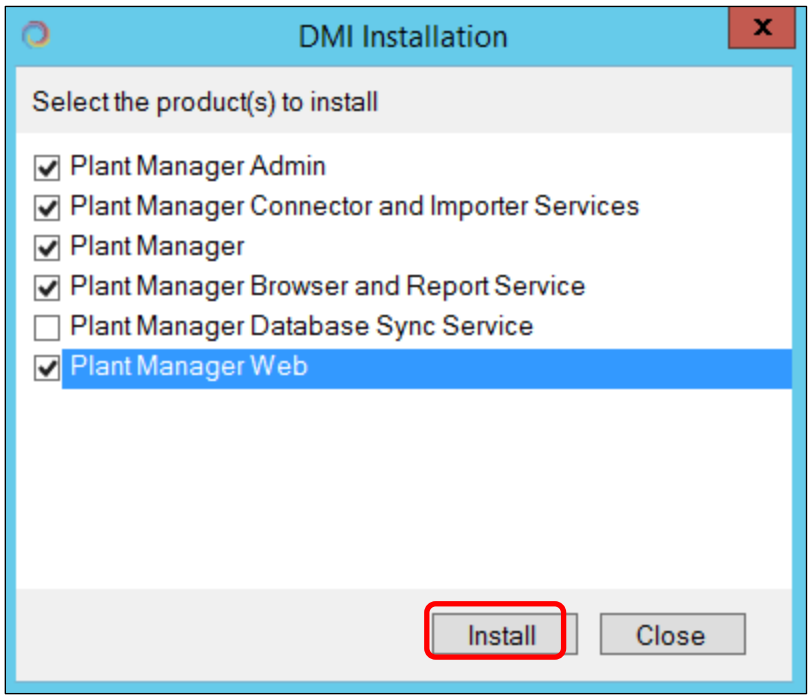
To install Plant Manager Components

Note Install Plant Manager Admin on your SQL Server. You must have Administrator rights to the SQL Server.

1. From the Auto-Count installation directory, double-click the **Setup.exe** installation file to start the wizard.



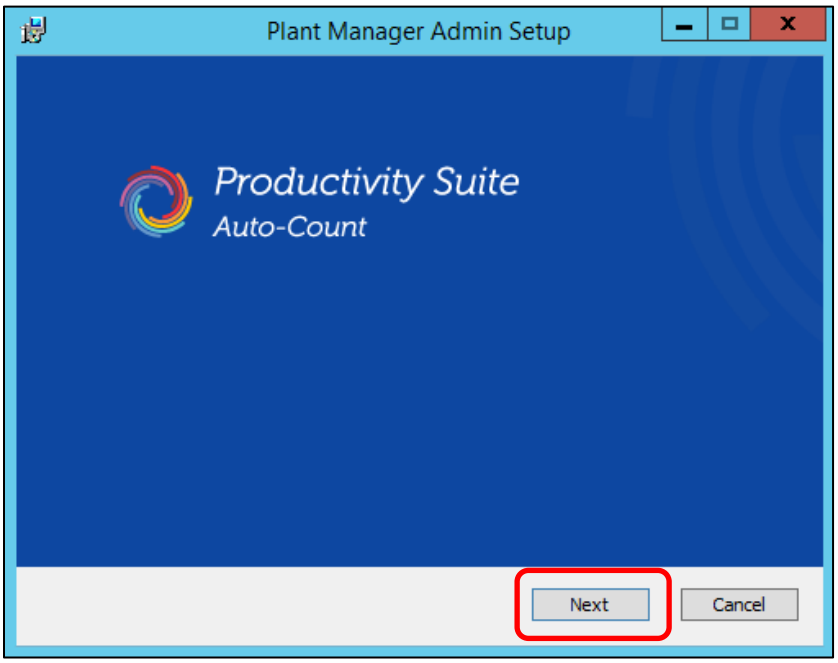
2. Select **Plant Manager Admin**, **Plant Manager Connector and Importer Services**, **Plant Manager**, **Plant Manager Browser**, and **Plant Manager Web**. Click **Install**.



Notes You will complete the Plant Manager Browser installation later.

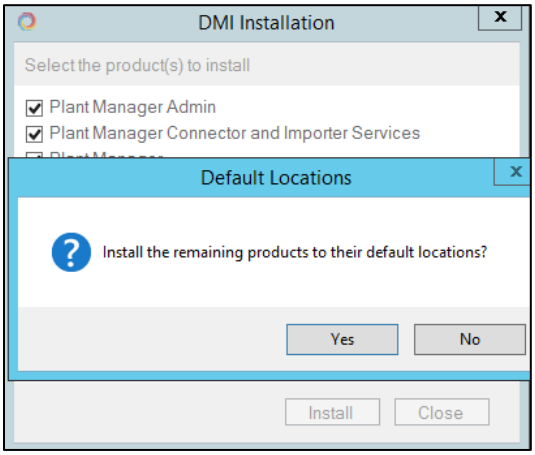
For Plant Manager Web, you need only install it once. With each upgrade you do not need to select it.

3. Click **Next** in the Plant Manager Admin setup window.

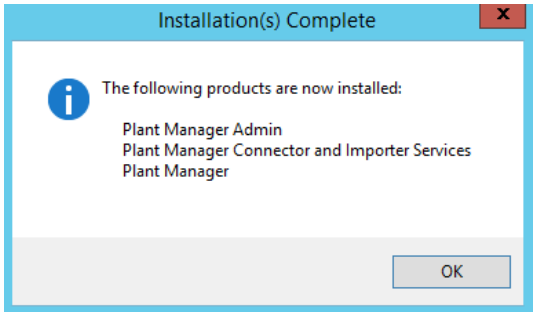


4. In the End User License Agreement window, accept the terms and click **Next**.
5. In the Plant Manager Admin Install Location window, accept the default location and click **Next**. You may click **Browse** and choose another location if needed.
6. In the Ready to Install window, click **Install**. The installation wizard will install Plant Manager Admin.

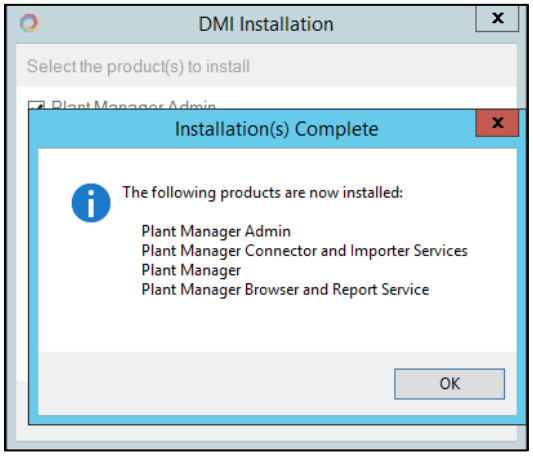
   Click **Finish** when the Plant Manager Admin installation is complete.
7. Next you will be prompted to install the other components you selected. Click **Yes**.



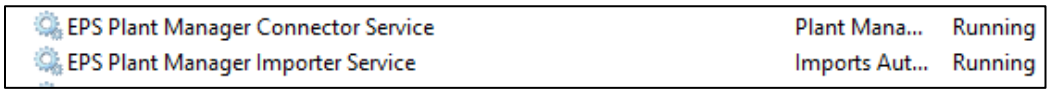
When this completes, click **OK.**



Click **OK** to acknowledge this message and then Close.



8. Confirm that the **Plant Manager Connector** and **Plant Manager Importer** services have started by opening the Services utility. This service should always be set to automatically start. Please see the section Run Services Under Domain User (Non-admin) for recommended security settings for running Services in the *Support Note – Recommended Security Settings*.



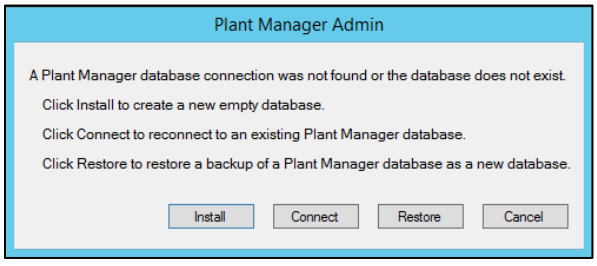
Now you must open the Plant Manager Admin utility and configure it.

Set up Plant Manager Admin

To configure the Plant Manager Admin Utility

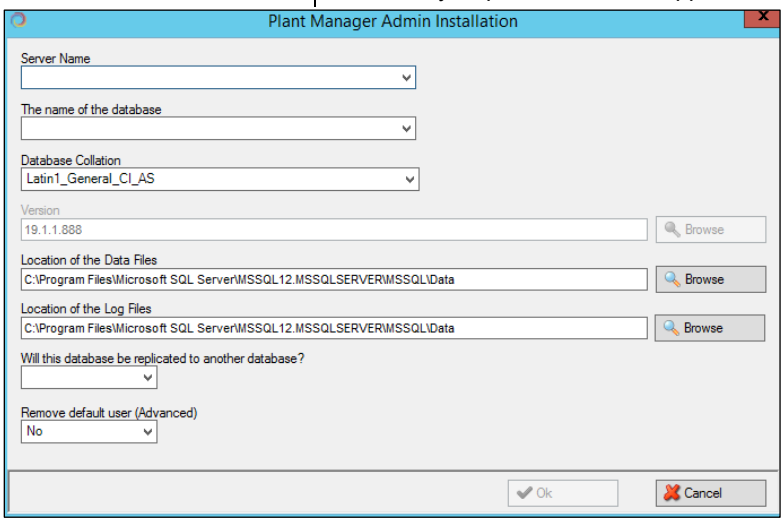
Note If you are setting up Plant Manager in a multi-plant environment and would like to use the Replicate Database feature then we suggest you do this with guidance from Support Services.

1. Open the **Auto-Count Plant Manager Admin** tool from the desktop shortcut created by the installation utility.
2. Click **Install** to create a database.



3. Enter the following information and click **OK**:

Server Name	The server where SQL resides. You may use the drop-down to auto-detect and select the name of the server.
The name of database	Select or enter **PlantManager**.
Database Collation	Select the collation for your Language set. If the collation you need is not available, contact support.
Location of the Data Files	The path to your SQL Server Data file folder for your database, typically called **Data**. You may Browse to a different folder if needed.
Location of the Log Files	The path to your SQL Server log file folder for your database, typically called **Data**. You may Browse to a different folder if needed.
Will this database be replicated by another database?	**No** (If you are replicating databases for several plants, please contact support.)
Remove default user (Advanced)	We create a default user with read/write access to the database when you first set up Plant Manager. Select this option if you prefer to use Windows managed security and have Plant Manager Admin use the User currently logged into Plant Manager Admin. Typically, this is used to satisfy IT security requirements. See Appendix B for details.



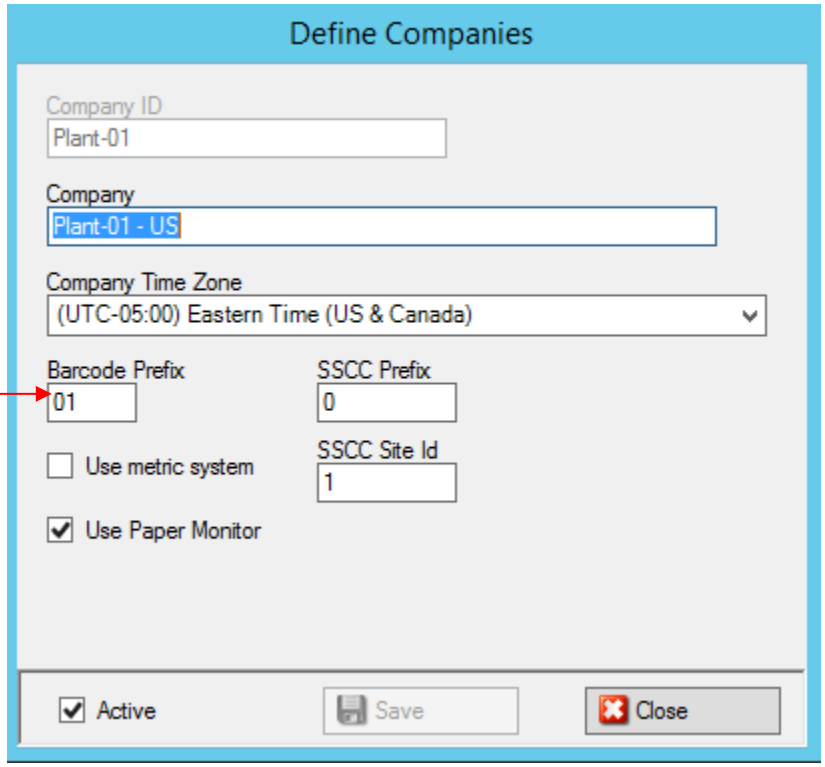
4. When the message "Restore Successful" opens, click **OK** to proceed.
5. In the **Configuration** window, select your MIS system and the communication method that you will be using between Plant Manager and your MIS system.

> **Note** Please contact Support if you are unsure of your Communication Method.

6. In the **Plants** window (**Companies** for Monarch users), you must define at least one plant site. This window is used to define the different production plants you may have in your company. If you only have one facility, then you only need one plant.

> **Note** Certain MIS systems will automatically populate a plant within Plant Manager. Users may just need to verify the plant information is correct.

> **Important!** You will use Plant Number when you configure Auto-Count. Enter this same number when you are asked to enter a Company ID in Auto-Count Setup.



Must be unique per plant.

Plant Number	Enter a Plant Number (can be alpha-numeric).
Plant Description	Enter a description.
Plant Time Zone	If not already defaulted to the proper time zone, select a Plant Time Zone.
Barcode Prefix	If using barcodes, you must enter a Barcode Prefix which is used by the system to uniquely trace jobs through a plant via barcodes. Enter a prefix of 1 to 3 characters using only A-Z and 0-9. This prefix should be unique across all plants in the company.
SSCC Prefix	Please see *Support Note – SSCC and GRAI Codes* for details. Companies who use SSCC numbers are assigned a GS1 Company Prefix by GS1, a nonprofit organization. Auto-Count uses this prefix to generate SSCC compliant serial numbers. Auto-Count uses this prefix to generate a standard SSCC serial number. The operator will see the generated SSCC serial numbers in the AC4D machine's Output window. The SSCC Prefix can be shared across plants within the same SQL database.
SSCC Site Id	When plants are in different databases across multiple sites , Auto-Count will generate the SSCC code with a site identifier in the code. For example, plant 1 and plant 2 are on different databases. Since the two databases use the same SSCC Prefix and both start at 0 to generate the serial code, both plants would generate the same set of serial numbers. To resolve this, each plant's serial numbers will contain a Site ID to uniquely identify outputs.
Use metric system	Select this if your machines count in metric. Otherwise, it defaults to imperial (American) units.
Use Paper Monitor	If you also use Paper Monitor, then select this option.

Click **Save**.

7. Click **Close** to close the Plant Manager Admin utility.

The next time you open the Plant Manager Admin utility, you will not be asked for configuration settings.

AutoConfigure

For first time installations you must now configure the connection with eFlow which sets the MIS subscription. If using the older Monarch-Gateway integration, you must also run AutoConfigure to create the URLs to be used within the Gateway.

Upgrades

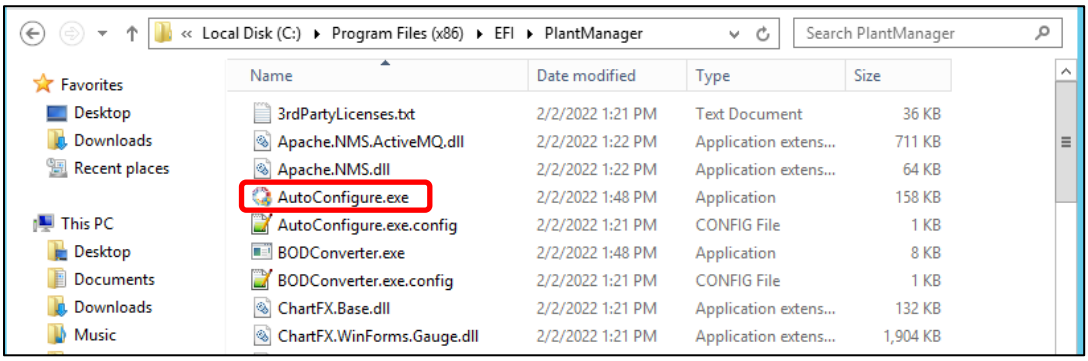
If you use eFlow and are upgrading from version 19.1.1.310 (or lower), then you **must** run the Auto-Configure tool after you install Plant Manager. This will set the *MaxSendRetryDelay* option on the EFLOW subscription. This will help in scenarios where network issues are common.

To use the BOD v4 API messages, you must upgrade to v19.1.1.533 or higher and re-run AutoConfigure.

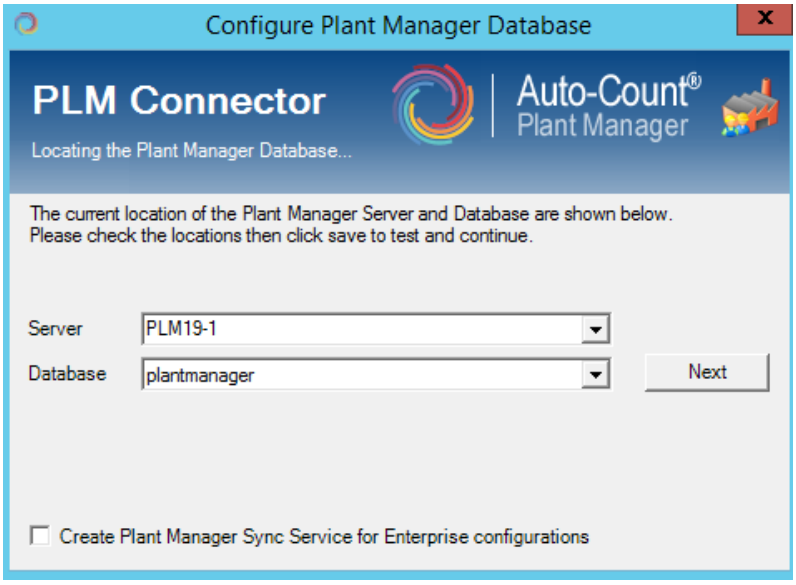
You may also use this section to reset your eFlow connection. AutoConfigure will automatically use the last known Facility ID. Unless required, do not change, or remove eFlow Facility ID.

To run AutoConfigure

1. Open the Plant Manager Installation directory. Typically, C:\Program Files (x86)\EFI\PlantManager. Double-click the **AutoConfigure** application.



2. Choose the **Server** where you installed the Plant Manager database. In **Database**, if **plantmanager** is not displayed then select it. Click **Next** or **Save** if you changed the server.



3. If you will use a web certificate (HTTPS) with the Connector, then please see the Support Note *Web Browser Certificates for Native HTTPS Connections*. If you are not, then click **Skip**.

4. (*eFlow users only*) Enter the URL of your eFlow installation. If the installation cannot find eFlow, simply enter DNS name http://<*eFlow server name*>:8081 or the IP address http://<*IP address of sever*>:8081.

   Then complete the following eFlow Settings:

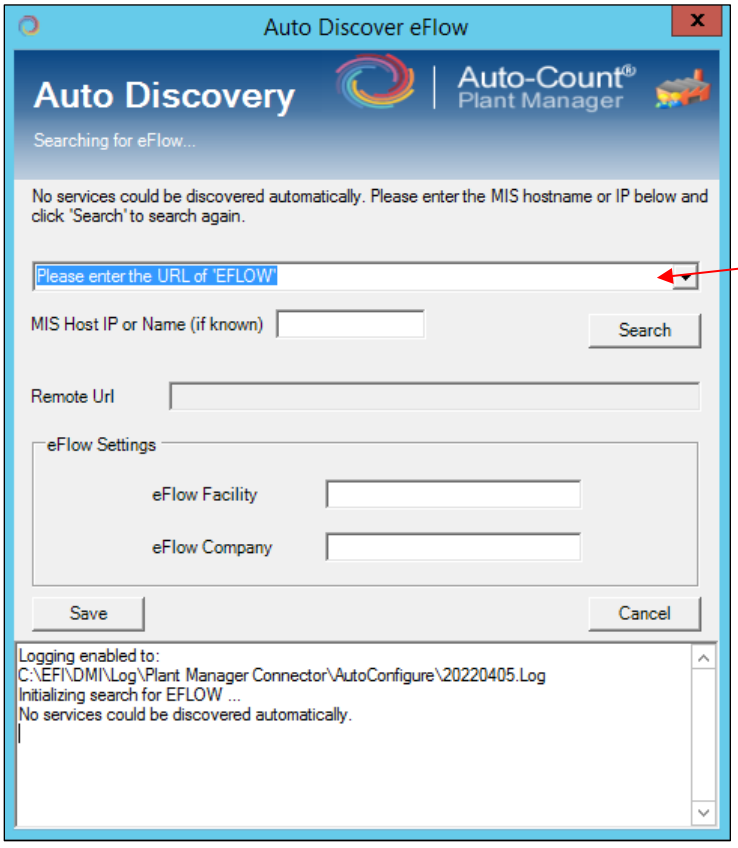
   eFlow Facility: Enter the eFlow Facility name. You can find your Facility in the topic names on the Subscriptions tab in eFlow.

   <Facility Name>.<Business Function>.< Root Element Name>.<Version>

   ! We do not recommend you leave this field empty; then Auto-Configure will use the Plant ID to create topics *per plant* and PlantId@ is prepended to the client id for each plant. This increases the number of topics being created and makes is harder to add plants in the future. Using a Facility ID makes it easy to add plants because the MIS is listening to one set of topics and all new plants will simply send to that set of topics. If you use Plant ID, then the MIS listens to several sets of topics based on plants.

   ! AutoConfigure will display the last saved Facility Name. If you enter the wrong eFlow Facility ID then it generates the wrong set of topics.

   eFlow Company: This is for licensing purposes and does not affect messaging or topics. You can find your eFlow Company ID in the local eFlow installation under Customer License Management. Enter it exactly as displayed. If you cannot locate the license, this field can remain empty, and you can proceed with the installation.

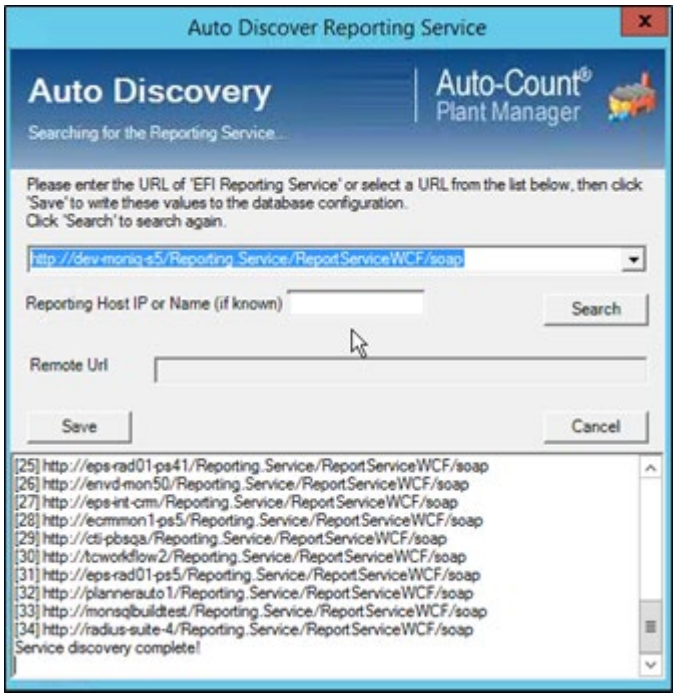


If you cannot reach the server using the DNS name, then use the static IP address.

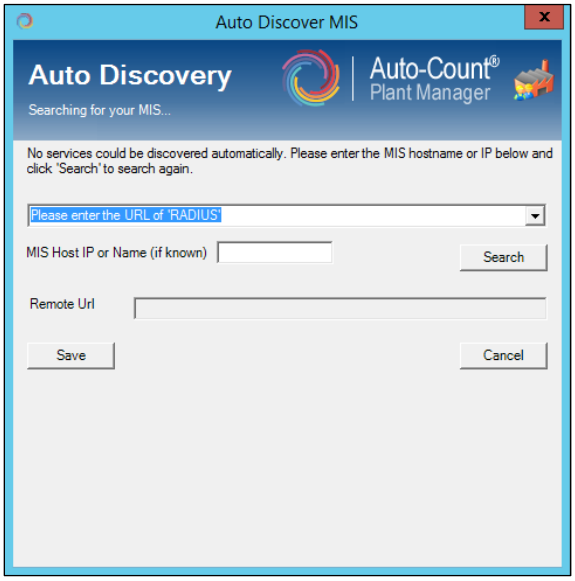
Note: If you use an IP address, then if you move eFlow to a different server the connection will break and you have to reconfigure it.

   Click **Save**.

5. From the drop-down list, select the Reporting Service you want to use to create reports.



6. Enter or select the path to your MIS:



Radius users: Enter http://servername:4141 as the URL and then click **Save**.

Pace users: Enter an **MIS Host IP** to generate a valid URL then click **Save**

Monarch Users: In the Auto Discover window, select a path from the drop-down list. If no paths exist, click **Search** to display a list of paths to the Gateway configuration file.

> **Note** If the auto-discovery tool cannot find any paths, manually enter the URL to the Gateway configuration file. (EFIConfiguration.asmx)

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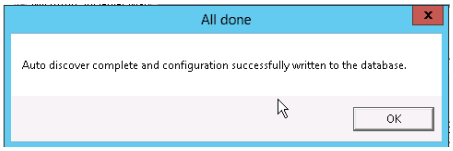
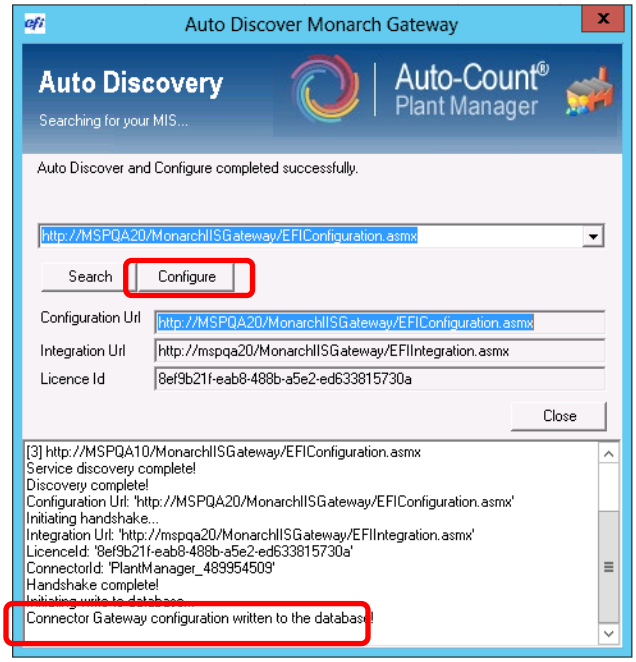
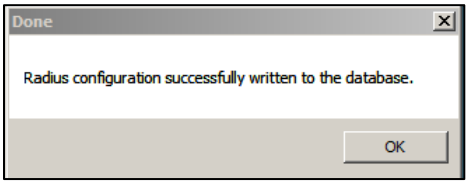
7. (*Monarch MIS*) Click **Configure** once you have selected a path. This process may take several seconds. Click **OK** once it is complete. The **Configuration Url**, Integration **Url**, and the **License Id** fields will now be populated.



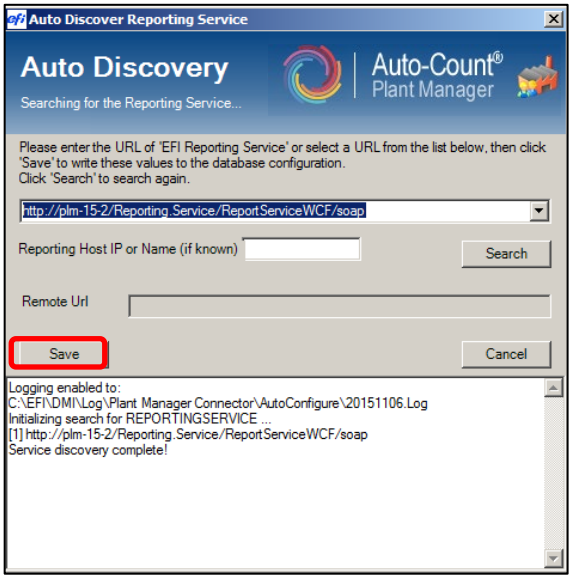


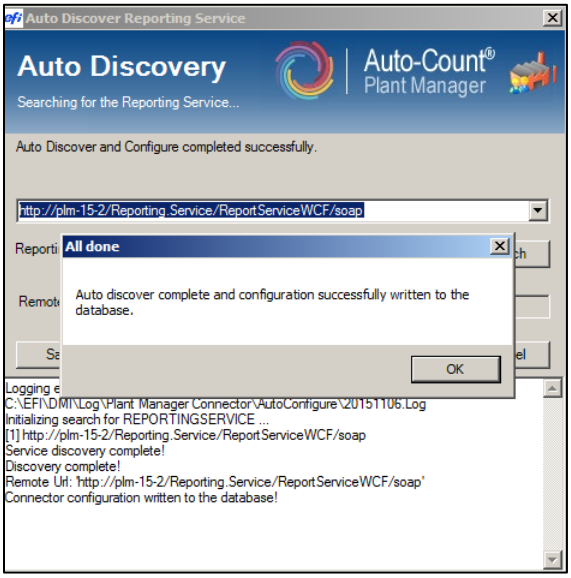
(*Radius MIS*)

Click **OK** at the successful configuration message. Then click **Next** on the main page.



The Reporting Service will now be discovered. When that is finished click **Save**.





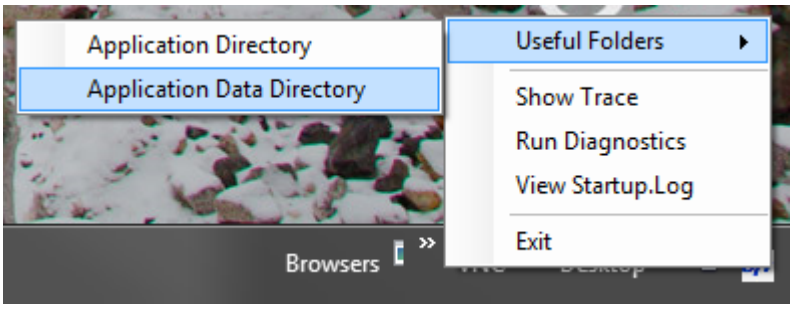
8. Close the Auto Discovery window to return to the installation wizard. Then close the installation.

Plant Manager Connector Utilities

In addition to the Plant Manager Connector Service, the installation wizard installs the following applications which can be used for troubleshooting. These are found in your Plant Manager Installation folder. You must run these applications as Administrator. If this is not possible contact Support who can assist you.

Plant Manager Connector UI

The Plant Manager Connector UI utility (PlantManagerConnectorUI.exe) allows you to access troubleshooting applications. Once you start it, you can access it from the EPS icon in the tray. We highly recommend you use these utilities with the assistant of Support.



Useful Folders simply helps you quickly access the installation directories and application folders.

Show Trace displays a live trace. Running the UI app with the "/trace" command line switch shows the trace on startup so you can see the initialization which would normally happen before you could enable the window.

Run Diagnostics runs a simple set of tests for various features of the Connector and displays the results.

View Startup.Log opens the log file created upon startup found in C:\EFI\DMI\Log\Plant Manager Connector\PlantManagerConnectorUI. This log is overwritten each time the service or tray application starts.

Plant Manager Connector Test App

This utility (PlantManagerConnectorTestApp.exe) allows you to manually submit messages to the Connector and Monarch and then view the results. Please contact Support for more details on how and when to use this.

Auto Configure Monarch

The Auto Discover Monarch utility (AutoConfigure.exe) starts the Configure Plant Manager Database window from the installation to allow you to change those settings.

Configure Plant Manager

You must run the Plant Manager Configuration wizard to complete the installation and configure your settings.

Note To enable the Create Runs and Packing Station features, you must run Plant Manager Configuration.

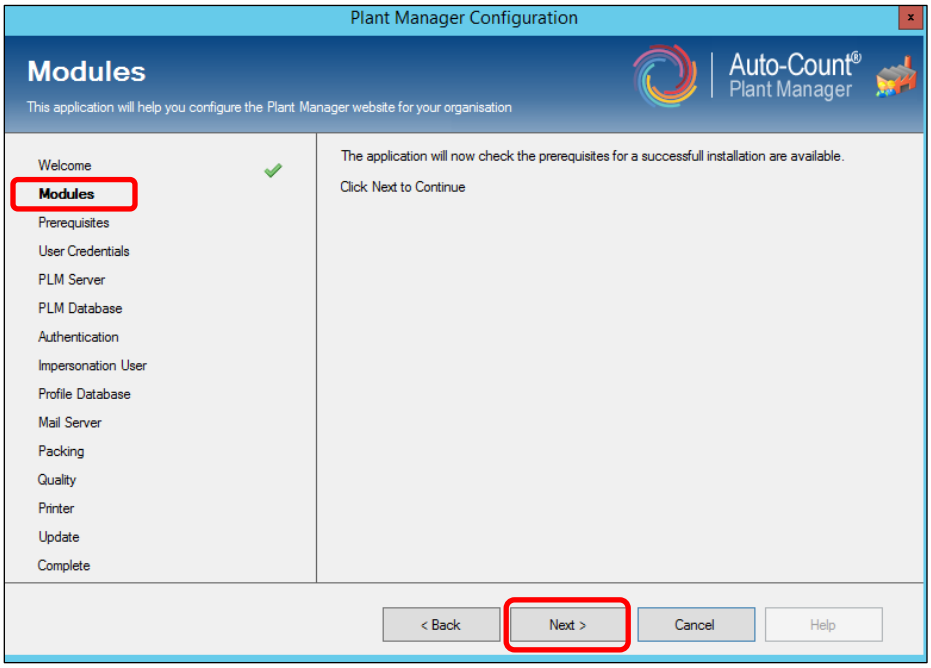
Prerequisite

- In ASP.NET, an Impersonation User must have Active Directory Read and Write access to allow users to log in. You must make sure that the specified impersonation users (*username)* has access to work with the "Temporary ASP.NET Files" folders found in the C:\Windows\Microsoft.NET\Framework*{version}* folders.

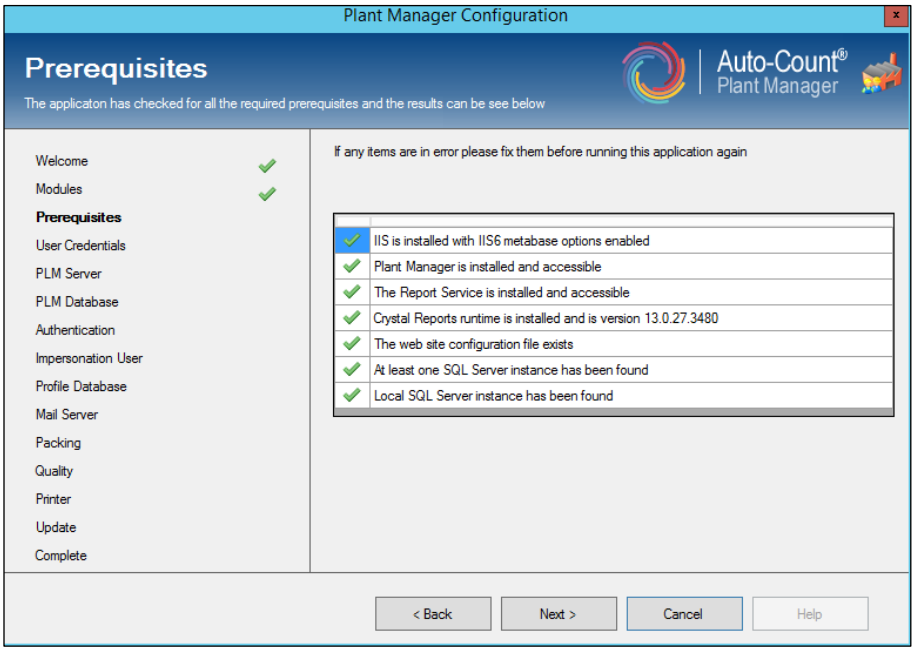
To configure Plant Manager Browser

1. From your desktop, open the **Plant Manager Configuration** wizard.

2. At the Welcome window click, **Next** to continue. The installation will now install the Plant Manager Browser and Reports Service modules. This may take a few minutes.
3. At the Modules window click **Next**. The installation will now check to make sure you have the prerequisite components installed.



4. In the Prerequisites window you will be shown a list of requirements and if your computer has met these requirements. Click **Next** if all the checkmarks are green.

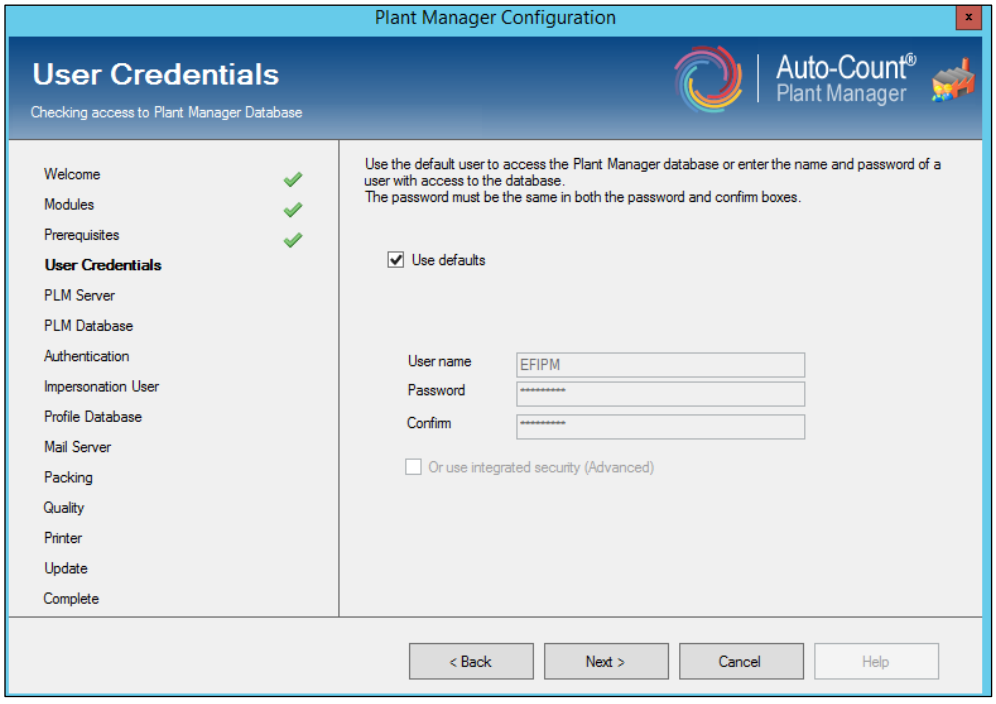


5. In User Credentials, accept the default login if you want to use the default SQL Login User built into Plant Manager.

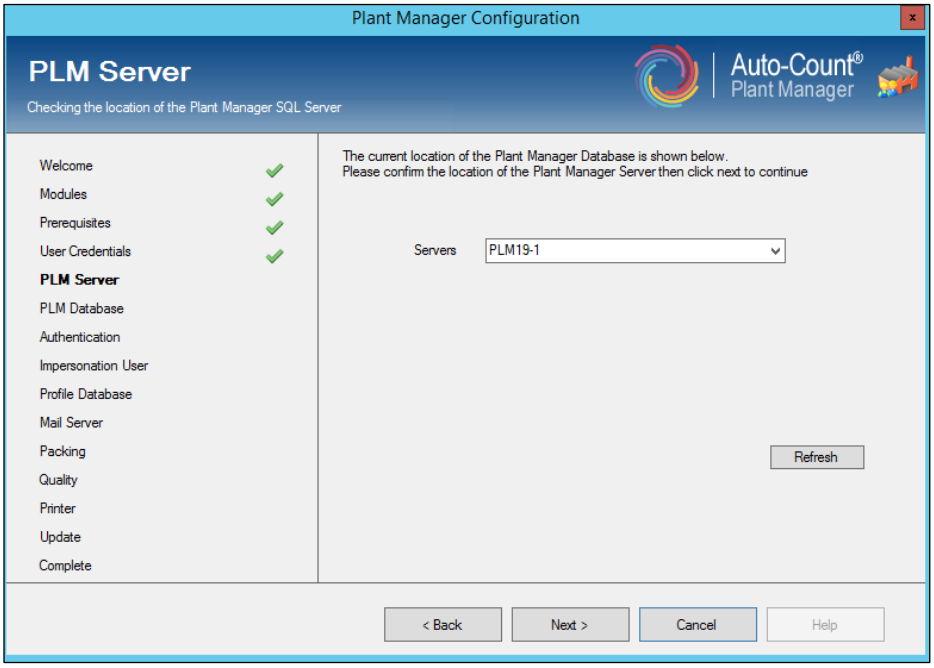
   To use your own SQL Login User, then unselect this and enter those credentials.

   If you have set up the Plantmanager SQL database to use a Windows User during the Plant Manager Admin step above, then choose the integrated security option. (See Appendix B for details.)

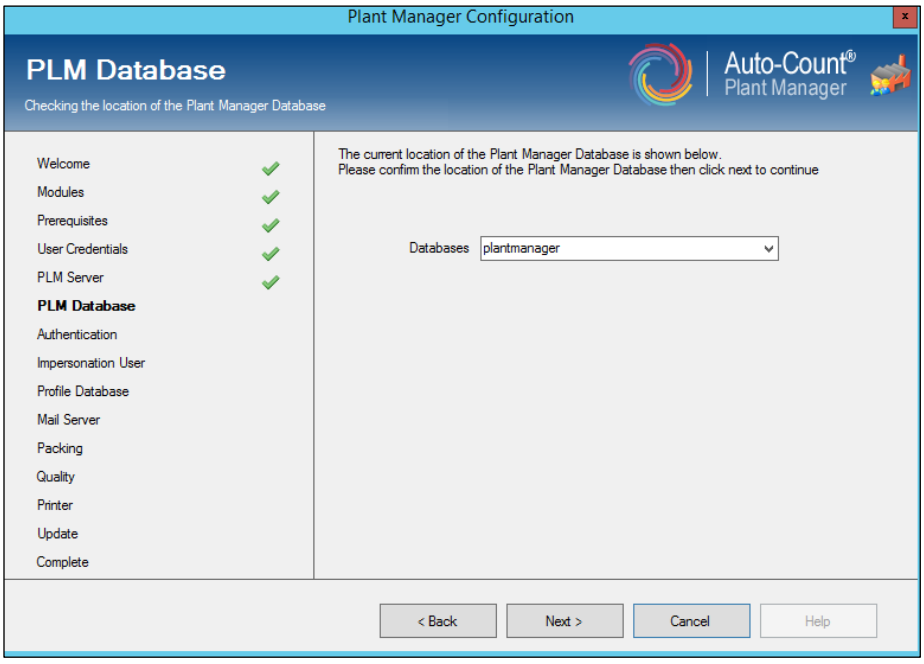
   Click **Next** to continue.



6. In PLM Server, select your current SQL server which contains your Plant Manager database. Click **Next** to continue.



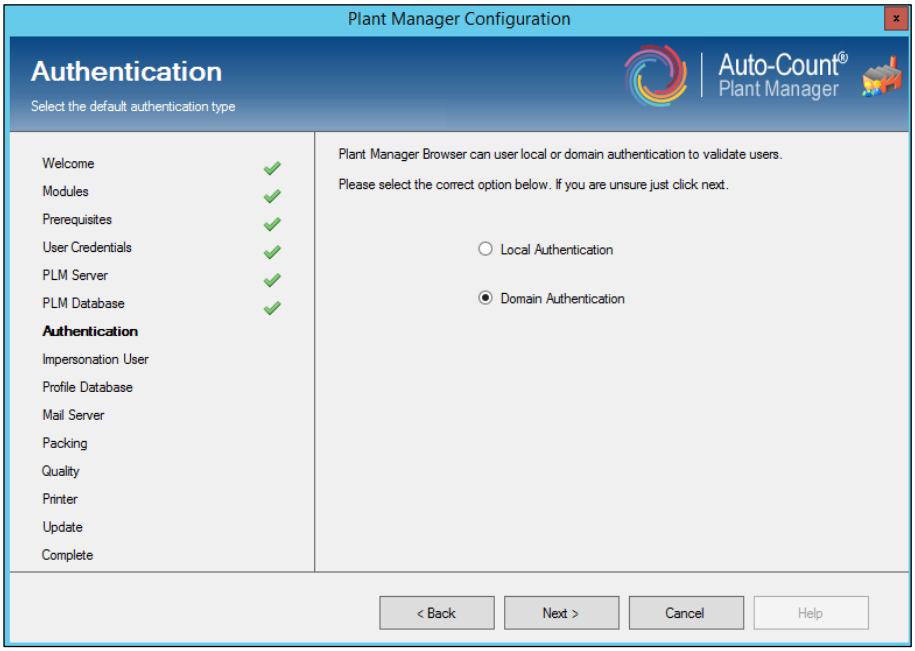
7. In PLM Database, select the **PlantManager** database from the drop-down. Click **Next** to continue.



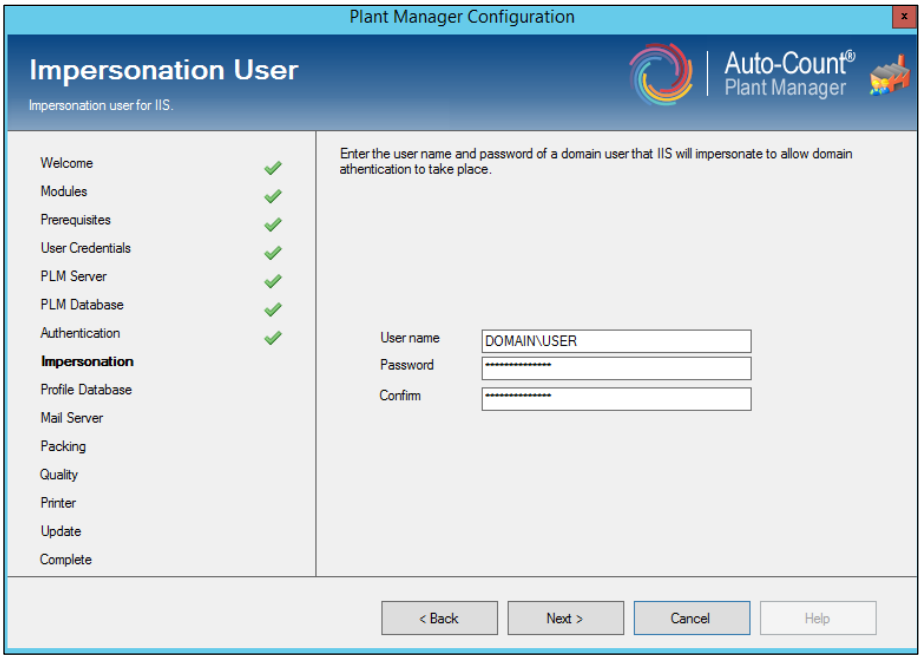
8. In Authentication, select which type of login your company uses – local or domain network. Choose **Domain** so employees can enter their established network username and password when logging into Plant Manager Browser. Chose **Local** if this will not be used on a network environment.

> **Note** If using Domain Authentication then you must add two groups to your Active Directory service: **PlantManagerUsers** and **PlantManagerAdmins**. Anyone assigned to these groups will have access to Plant Manager Browser and Plant Manager Web using their domain login. If they do not belong to one of these groups, then they will receive an Access Denied error message. Users in the PlantManagerUsers group will only have read access to Plant Manager. Also, any user assigned to the server's **Administrators** group will have admin access to Plant Manager.

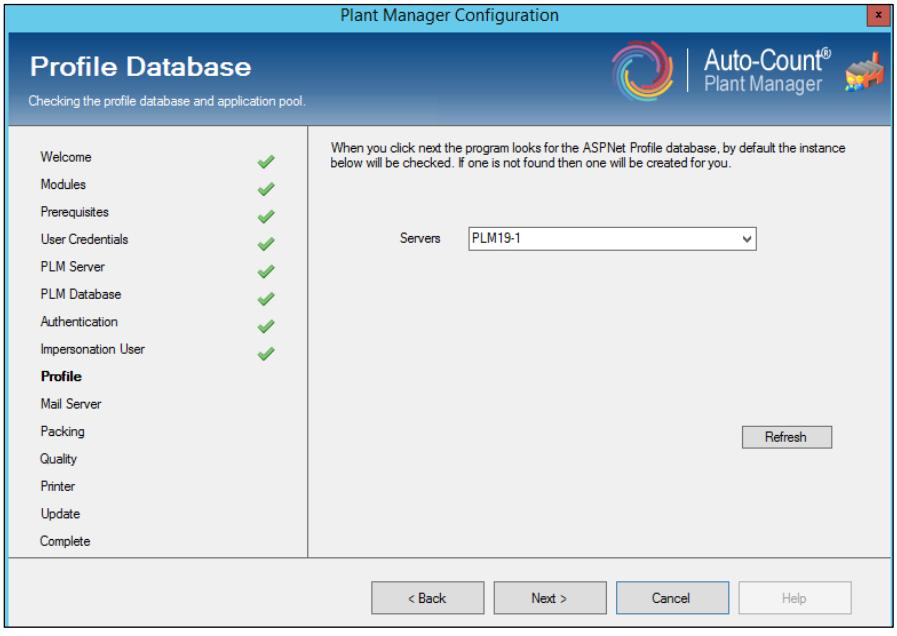
Click **Next** to continue.



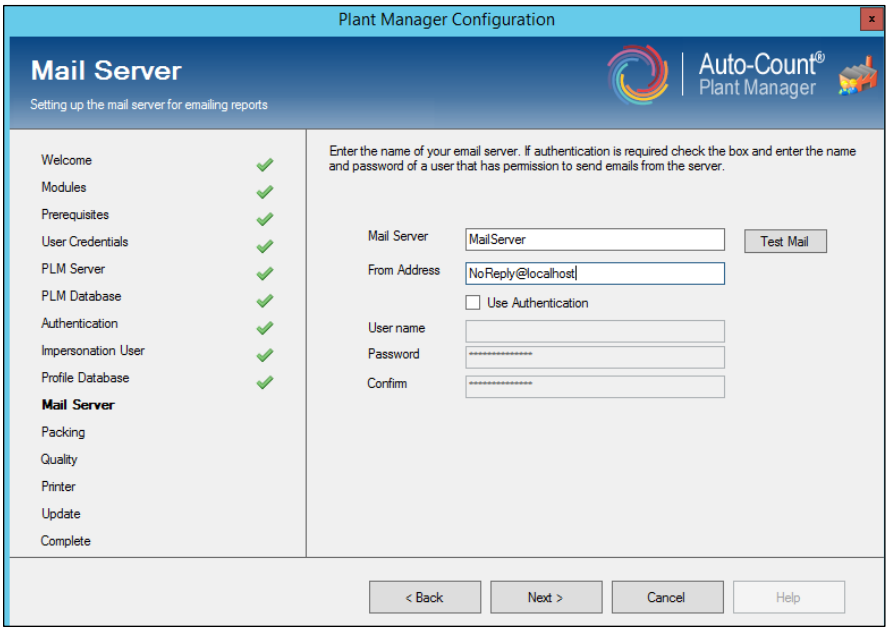
9. If using Domain authentication, enter a user from the domain which IIS will use to access Plant Manager Browser. When the user logs in at the application, they do not have to enter the domain - just their network username/password. Users trying to access Plant Manager Web will need to provide the domain\username credentials. If not using Domain authentication you will not see this screen.



10. In Profile, confirm the correct server is selected to check for the ASPNet Profile database and click **Next**.

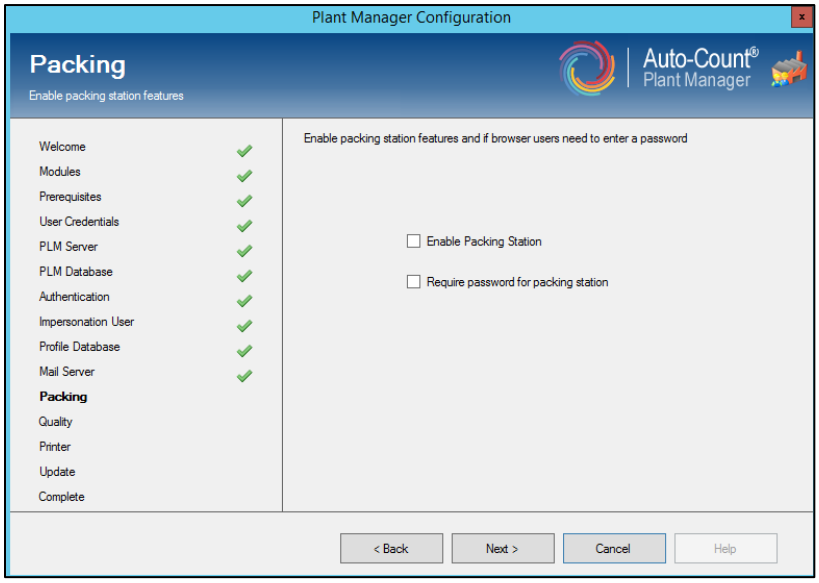


11. In Mail Server, enter the name of your SMTP server. Then accept the default From Address or enter one of your own. Select Authentication if your mail server requires user authentication.



Click **Test Mail** and enter an email address. Click **Test**.

12. In **Packing**, choose **Enable Packing Station** to use the packing station feature. You must also enter a license key provided by Support to use this feature.



13. In **Quality**, if you bought a Quality Module license then enable this module here. You must have a license. Please contact ePS Services if you have questions. If you did not purchase Quality, click **Next**.
14. In **Printer**, select a default printer which Crystal Reports can use if no printer is specified for a report. These are currently installed printers on the current server on which Plant Manager is installed. The printer you select is saved in the report service configuration files to be used by the report service.
15. In Update, click **Next**.
16. Once the wizard is completed you can test your new Plant Manager web site using the link. If you need to troubleshoot your web site, then run the wizard again and check your settings. Otherwise click **Finish** to close the wizard.

Your users can now access the Plant Manager Browser web site using this link. They will need to enter their network login username (domain/username) and password. (Or for Local authentication, enter the login for that computer.)

> **Note** Please search the Knowledgebase articles in Communities or call Support to learn how to set up Plant Manager Browser with Domain Authentication when server is not in a domain.

Configure Plant Manager Web

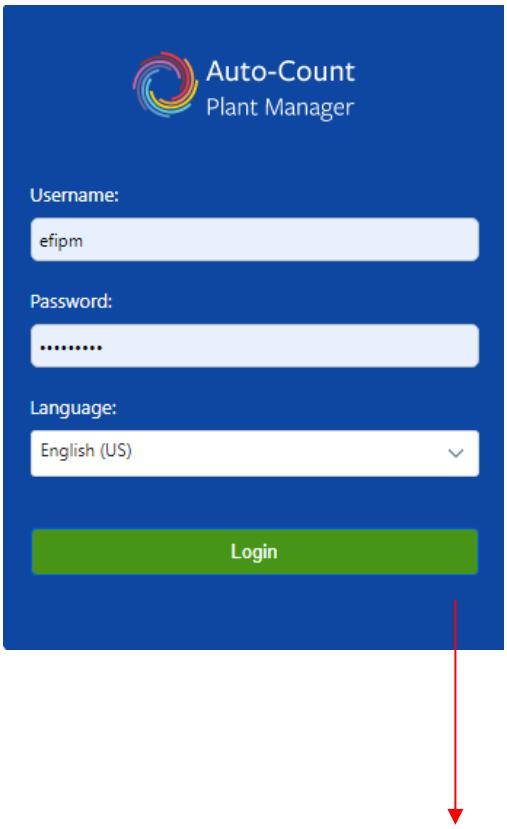
The new version of Plant Manager is currently available. It is browser-based and contains additional features along with all the functions found in the current Plant Manager application. You can install it side by side with your current Plant Manager. Changes made in one will automatically update in the other.

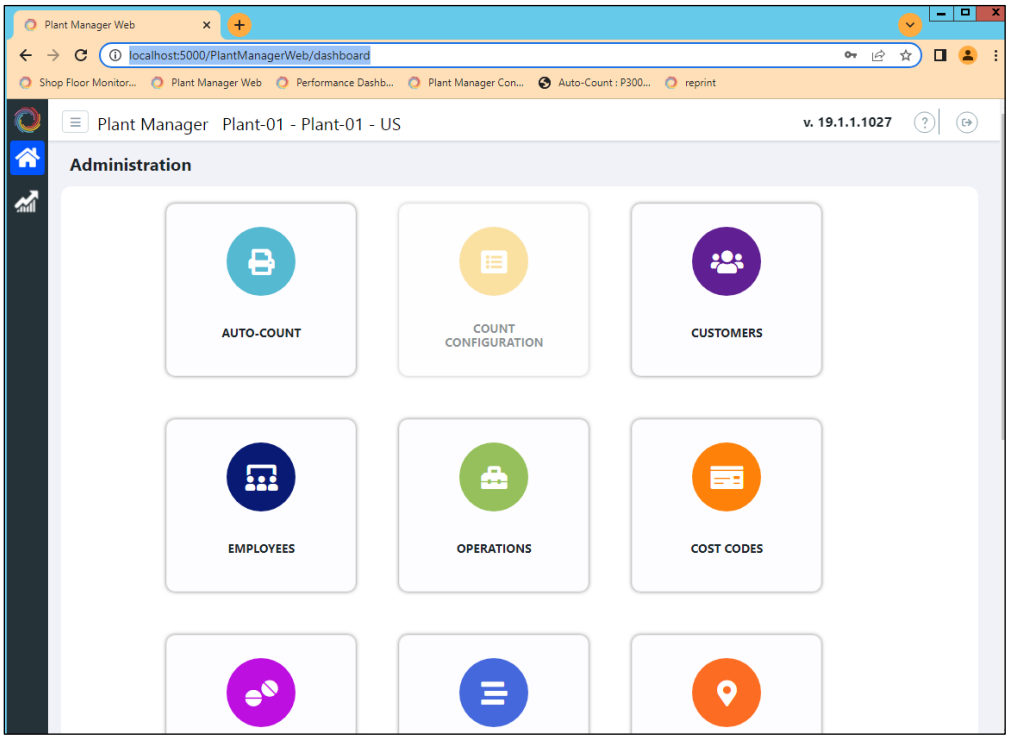
To install it, run the usual Setup.exe installation program on the server where you currently have Plant Manager installed and select Plant Manager Web UI.

To open the new Plant Manager, create a bookmark using this link:

http://yourservername:5000/PlantManagerWeb/

You are prompted to log in using your Plant Manager login.




Plant Manager Web
localhost:5000/PlantManagerWeb/dashboard
Shop Floor Monitor...
Plant Manager Web
Performance Dashb...
Plant Manager Con...
Auto-Count : P300...
reprint
Plant Manager
Plant-01 - Plant-01 - US
v. 19.1.1.1027
Administration
AUTO-COUNT
COUNT CONFIGURATION
CUSTOMERS
EMPLOYEES
OPERATIONS
COST CODES

My company is already using port 5000, how do I change that?

In the address, we default to using port 5000 (http://yourservername:5000/PlantManagerWeb/)

To change the port used by Plant Manager Web, you must change *5000* in two different files. You should change the port to any free port, ideally, above 5000.

To change the Plant Manager Web port assignment:

1. Open **appsettings.json** and in the "Urls" node replace 5000 with the new port number.
2. Open **app-config.json** and edit the "*apiPort*" from 5000 to the new port number. Then edit the "*replaceConfig*" node to **True**.

Examples

appsettings.json was changed to use port 5001

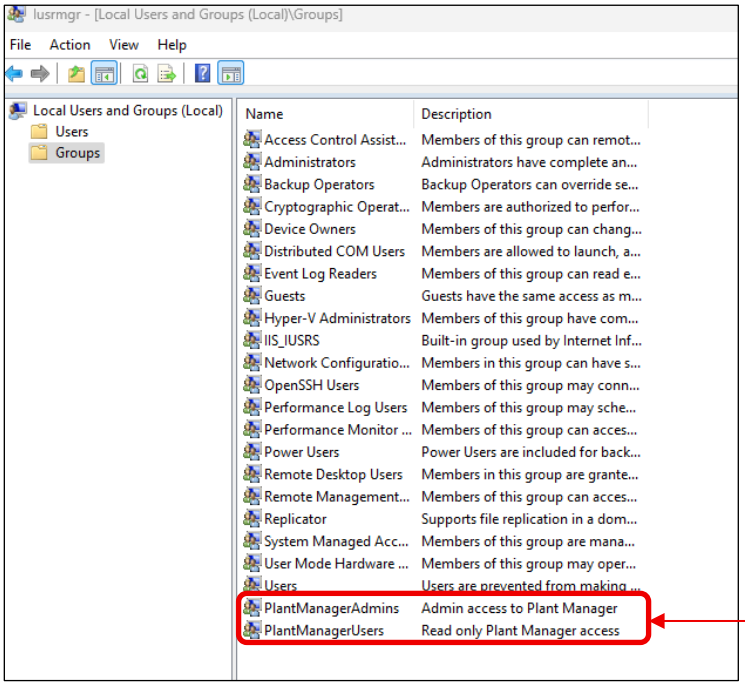
```
{
  "AllowedHosts": "*",
  "Logging": {
    "LogLevel": {
      "Default": "Information",
      "Microsoft": "Warning",
      "Microsoft.Hosting.Lifetime": "Information"
    }
  },
  "Urls": "http://*:5001"
}
```

app-config.json was changed to use port 5001

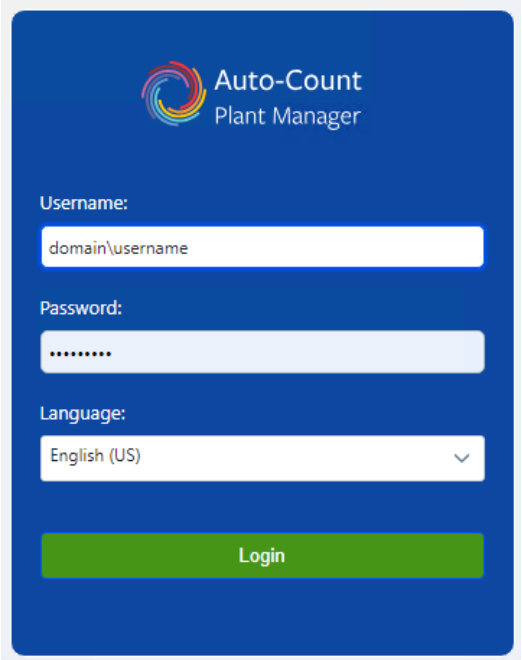
```
{
  "apiHost": "localhost",
  "apiPort": "5001",
  "replaceConfig": "true",
  "useSSL": "false",
  "reportServiceBaseURL": "http://localhost/Reporting.Service/ReportServiceWCF/webjson/"
}
```

How do I set up user login for Plant Manager Web?

When running the Plant Manager Configuration tool, choose Domain authentication. Then you must add two groups to your Active Directory Login Groups: **PlantManagerUsers** and **PlantManagerAdmins**. Also, any user assigned to the server's **Administrators** group will have admin access to Plant Manager. If they do not belong to one of these groups, then they will receive an Access Denied error message. Users in the PlantManagerUsers group will only have read access to Plant Manager.



When logging into Plant Manager Web, users must enter **domain\username**.



Note ePS does not record or store user's login credentials when logging into Plant Manager Web. Security is handled by Microsoft authentication. We also recommend you set up SSL security on all browsers.

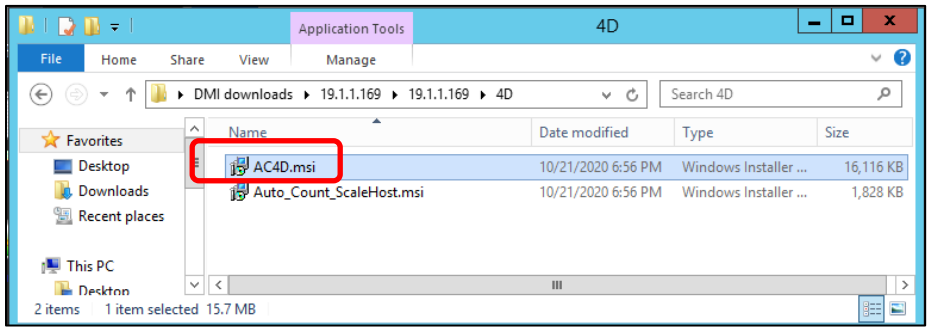
Installing Auto-Count 4D

> **Note** Before you install an Auto-Count4D machine you must have created a machine with machine type of *Auto-Count 4D* and one machine configuration in Plant Manager.

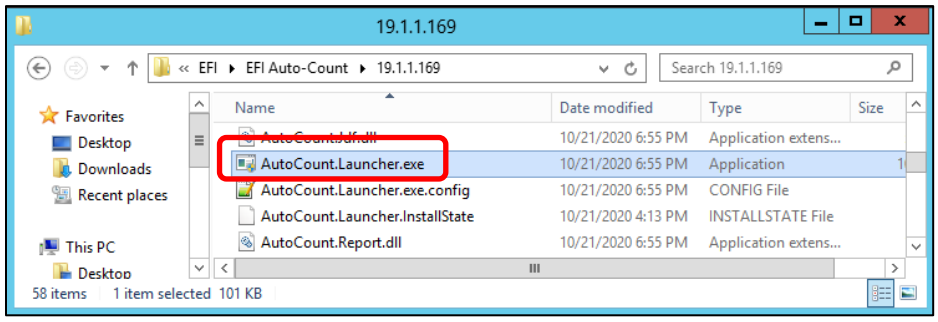
First, you must install the installation files and then you will run a utility (AutoCount Launcher) which will open a command window where you will install a 4D instance (machine.) You can also use this procedure to upgrade or uninstall.

To install Auto-Count 4D

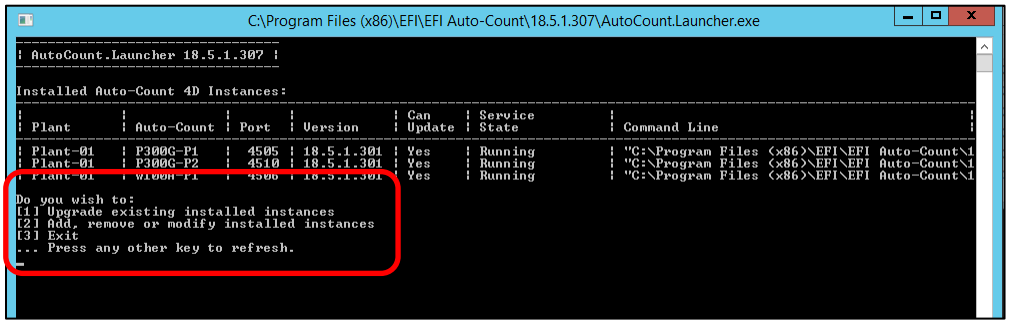
1. Download the latest 4D installation files to your computer and then run **AC4D.exe**. (These are found in the 4D folder of the installation files.)



2. Navigate to the 4D release folder which was just installed at Program Files (86x) > EFI > EFI Auto-Count and double-click **AutoCount.Launcher.exe** to open the 4D utility program.

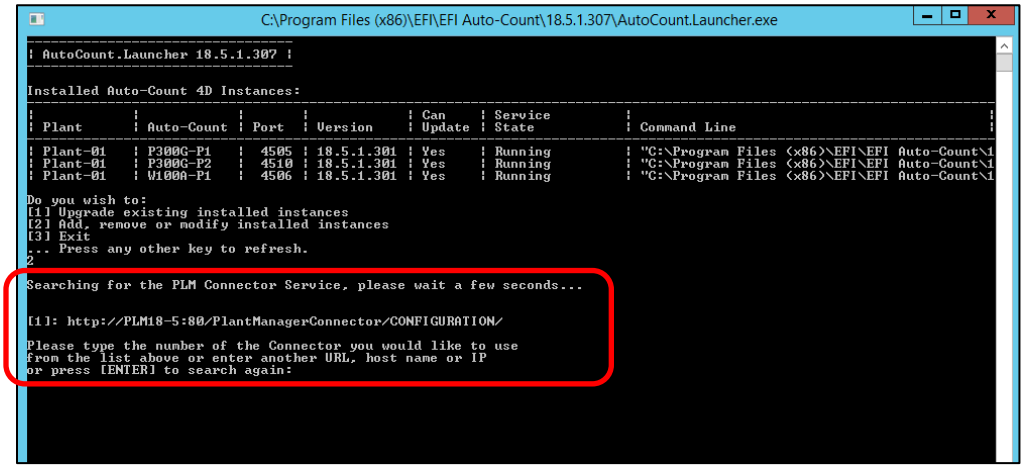


3. When prompted, enter '**2**' to add a new 4D machine.

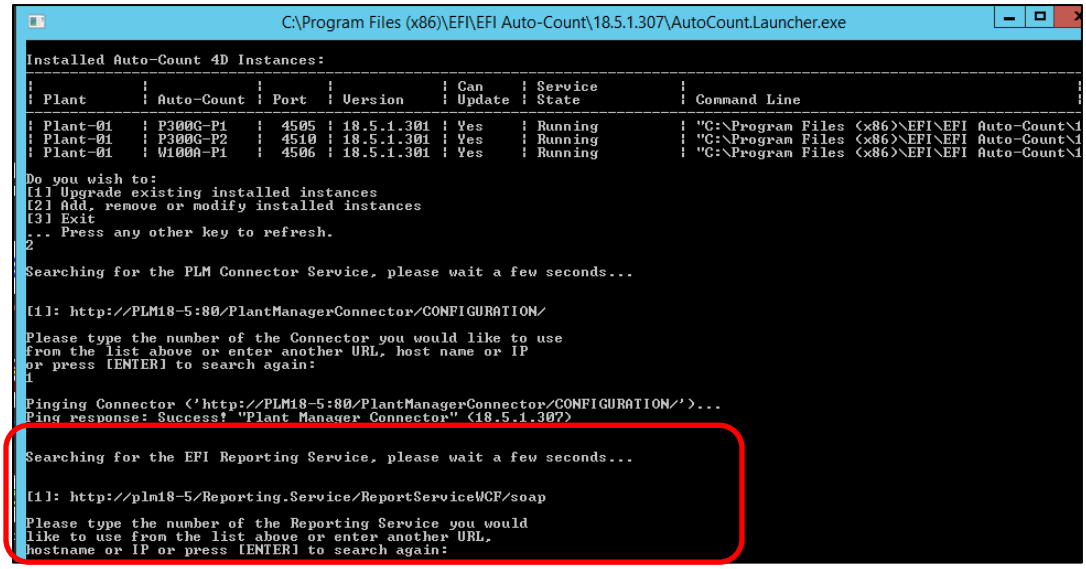


4. The installation will discover available Plant Manager Connectors needed for 4D installations. Select the server where the connector for this 4D resides or enter '**localhost**' if it is on this computer.

> **Note** The install routine will discover any connector it finds on the network. If it does not, then enter the IP address or machine name of the server where you installed Plant Manager Services (Connector). Or enter localhost if you know it resides on this computer.

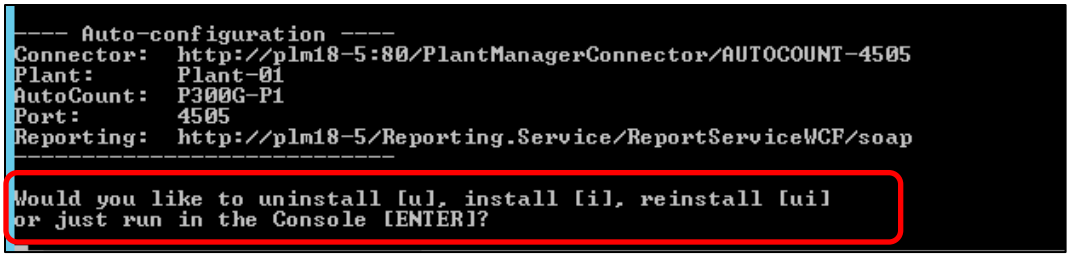


5. Enter the number of the reporting service you want to use or enter '**localhost**' if you know it resides on this computer. Again, you can also enter the IP Address of where the Reporting Service resides. The Reporting service is typically installed where Plant Manager is installed.



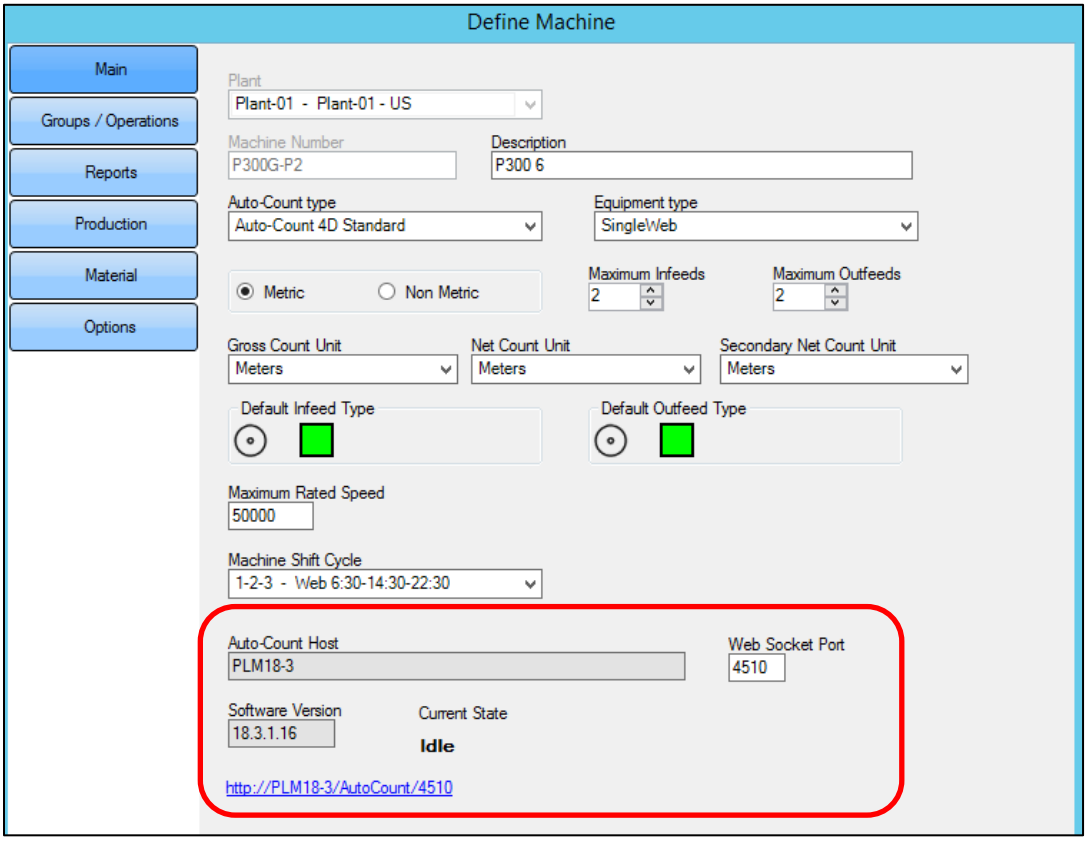
6. Enter the number of the Auto-Count machine for which you want to create a 4D instance.

7. Enter '**I**' to install the 4D machine.



8. Enter '**y**' to start the new 4D machine service. The 4D machine or instance is a service.
9. Press any key to exit the installation wizard.

Back in Plant Manager you can now see the machine has the 4D information attached as well as a link.



Configuring Plant Manager

The following configuration settings are necessary to complete a basic workflow in Auto-Count. To learn how to configure all Plant Manager settings and other set up functions, see the *Plant Manager and Auto-Count Setup Guide*.

Groups

Groups will help you assign people, operation codes and materials to machines and to update those resources easily. For example, if you have thirty Auto-Counts, you do not have to add employees, operations, and materials individually to all thirty machines. Simply create groups and assign those groups to the Auto-Count. Then, when resources change, update the group and the machine will automatically receive those updates. Groups are also used to filter Auto-Count 4D windows using displays defined here. For example, if you only want to display to display Pallet Tickets and Shift reports you would create a Report group for just these reports and assign the group to your Auto-Counts.

> **Notes** For Classic users, the operations, employees and stock type Groups are automatically downloaded to Auto-Count Setup. You do not have to set up employees, opcodes and materials in Auto-Count, but you can still view these items here in Plant Manager.
>
> For those upgrading from a version prior to 15.2, existing items chosen are preserved at the Auto-Count until you define and assign groups in Plant Manager. Then they are downloaded and will overwrite any previous values.

Group Types

There are different types of groups to perform different functions.

The following groups are used when setting up the basic parameters of your machine. You must create these groups and then go to Define Machine and assign them to your machines before you can use that Auto-Count machine.

- **Operation**
  Create groups of operation codes. Assign these groups to machines to make the operation codes available to the machines. When you assign more than one operation group to a machine these become collapsible groups in Auto-Count 4D so operators can more easily find opcodes. We suggest you create groups of codes by function like Makeready, Running, Stop, etc.

  > **Radius** Radius MIS integrations can send Operation type Groups to Auto-Count and assign them automatically to specific machines.

- **Employee**
  Create groups of employees. Assign these groups to machines to make these employees available to the machine.
- **Stock Type**
  Create groups of stock types. Assign these groups to machines which are using Auto-Paper or weighing waste.

The following group types are for basic configuration and display preferences. They are not a machine requirement, but help you better customize your machine settings.

- **Report**
  Use Report groups to display specific reports at an Auto-Count 4D. When a report group is assigned to an Auto-Count, only those reports will be available.
- **Printer**
  Create a group of printers. When assigned to an Auto-Count 4D, these printers will be available to use during a run. If you do not assign a printer group, then the printers you set up on the Reports tab will be used.
- **Printer Alias**
  A group of printers which can be used interchangeably for each other. *Printer Alias groups are not assigned specifically to a machine but are used when the current printer assigned is not available.* The MIS can assign reports to an alias group. Auto-Count will then use an available printer from that alias group. The printer assigned to the Auto-Count must be part of that alias group. If the assigned printer is not available but is part of an Alias group, then Auto-Count will pick an available printer from that alias group to use instead.

- **Run Queue Column**
  This group type is used to display specific columns in the 4D Run Queue. Add columns in the order you want to display them in the Run Queue window. Select Searchable to allow users to search on that column.
- **Helper**
  Helper groups are used to track crews on a machine beyond the main operator. Assigning a Helper group to a machine makes these helpers available to the machine as needed. See the *AC4D User Guide* for how to use Helpers on a run.
- **Machine / My Group**
  This allows you to create a group of machines which will be used to display a common run queue when you click **My Group** in the Auto-Count 4D Run Queue window. This is useful if you create these groups by equipment type. When you move a run between these grouped machines, you can use the My Groups button to easily find and then start the run on the current machine.
- **Display**
  This allows you to create equipment filter buttons in Plant Manager Browser. See the section “Creating custom display groups” below.
- **Quality Question**
  Allows an MIS to supply a group name with a specific job to tell Auto-Count which questions to use for the job. Quality questions display on screen at the AC4D for the operator to answer. The user then encounters these questions while setting up a job on the Auto-Count and the answers are sent back to the MIS database. They can be sent at a run level or a task level. By grouping questions, the MIS simply needs to tell AC4D which group of questions to use on a job.

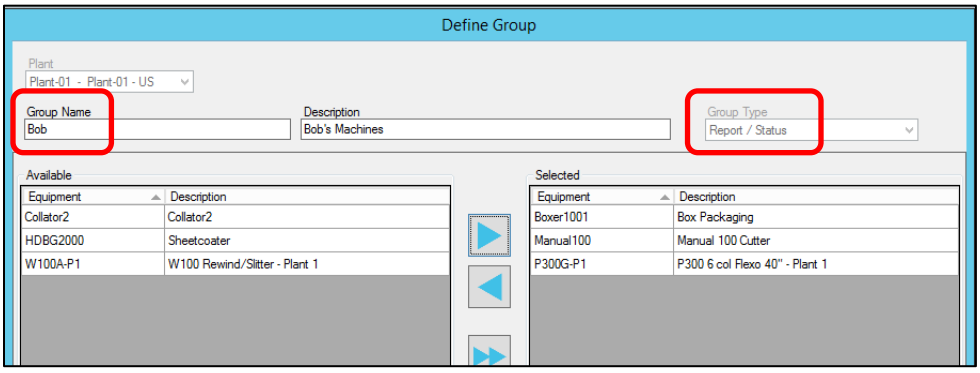
> **Warning** Quality Questions used in Groups are for Job/Task-based workflows only. If a question resides inside of a group, it can only be used when a job specifies that group.

> **Note** Once a group is assigned a type you cannot switch it to another type. Anytime a group is updated, those changes will automatically be applied to any machines to which the group is assigned.

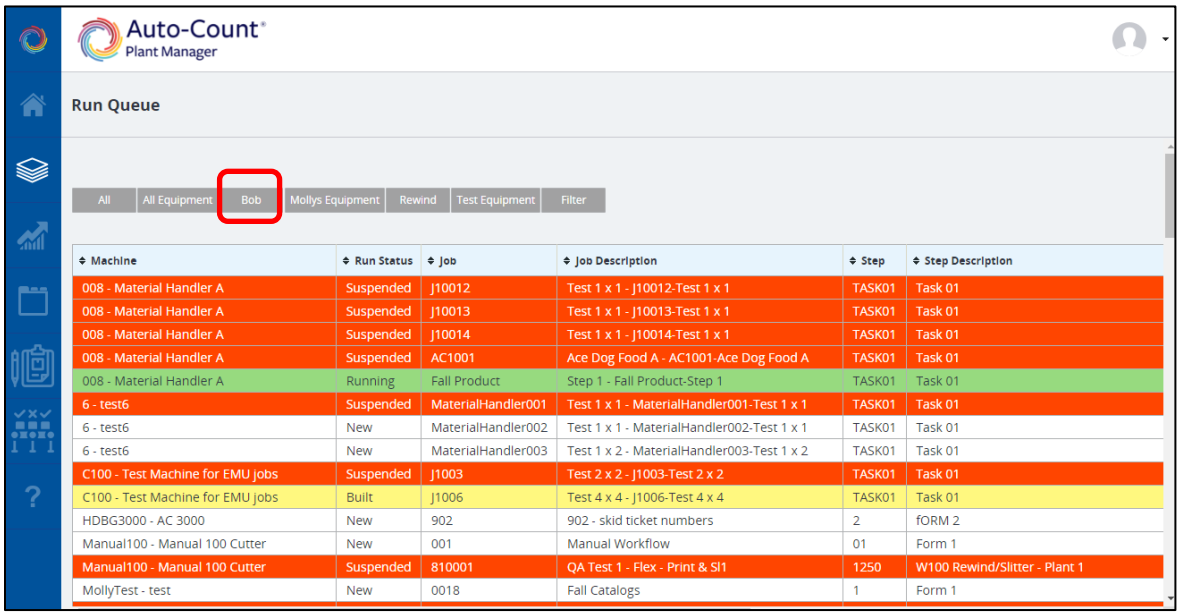
Creating custom display groups

The **Display** group type is unique in that it allows you to create a custom equipment group for display purposes in Plant Manager Browser. When you create a group of type Display, the Run Queue in Plant Manager will dynamically change to display this equipment group. This is good to use for Department filters. You can set up equipment based on departments, so Plant Manager users can quickly display only their department’s equipment. See the example below.

First you must create a Display type group.



In the Run Queue, you'll see a new button at the top for the group you created. Click it to display only those machines in this group.

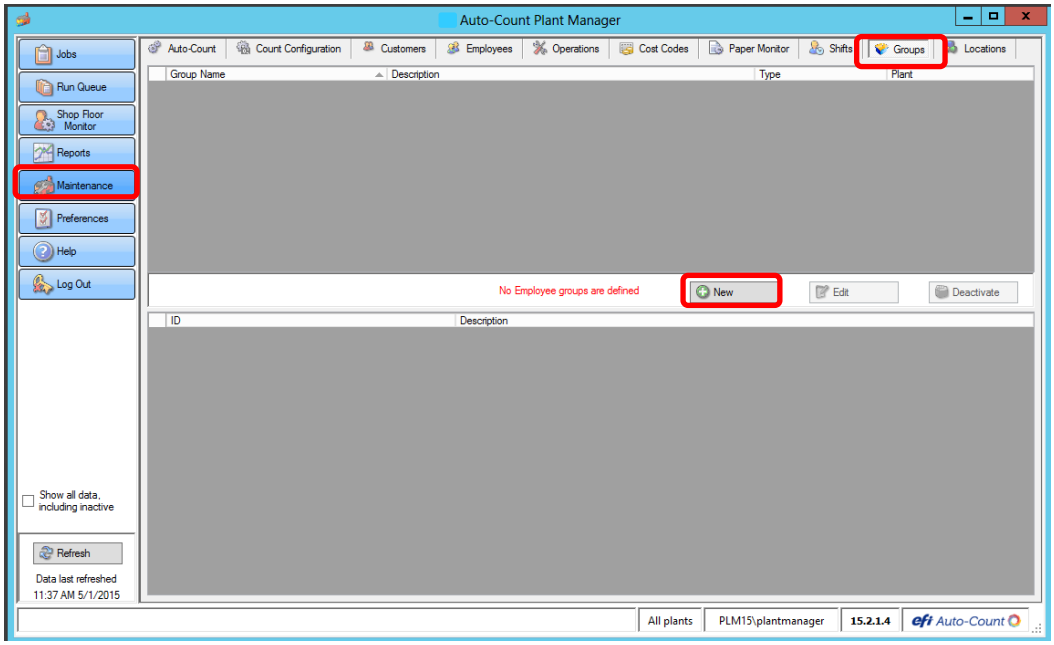


Machine	Run Status	Job	Job Description	Step	Step Description
008 - Material Handler A	Suspended	J10012	Test 1 x 1 - J10012-Test 1 x 1	TASK01	Task 01
008 - Material Handler A	Suspended	J10013	Test 1 x 1 - J10013-Test 1 x 1	TASK01	Task 01
008 - Material Handler A	Suspended	J10014	Test 1 x 1 - J10014-Test 1 x 1	TASK01	Task 01
008 - Material Handler A	Suspended	AC1001	Ace Dog Food A - AC1001-Ace Dog Food A	TASK01	Task 01
008 - Material Handler A	Running	Fall Product	Step 1 - Fall Product-Step 1	TASK01	Task 01
6 - test6	Suspended	MaterialHandler001	Test 1 x 1 - MaterialHandler001-Test 1 x 1	TASK01	Task 01
6 - test6	New	MaterialHandler002	Test 1 x 1 - MaterialHandler002-Test 1 x 1	TASK01	Task 01
6 - test6	New	MaterialHandler003	Test 1 x 2 - MaterialHandler003-Test 1 x 2	TASK01	Task 01
C100 - Test Machine for EMU jobs	Suspended	J1003	Test 2 x 2 - J1003-Test 2 x 2	TASK01	Task 01
C100 - Test Machine for EMU jobs	Built	J1006	Test 4 x 4 - J1006-Test 4 x 4	TASK01	Task 01
HDBG3000 - AC 3000	New	902	902 - skid ticket numbers	2	fORM 2
Manual100 - Manual 100 Cutter	New	001	Manual Workflow	01	Form 1
Manual100 - Manual 100 Cutter	Suspended	810001	QA Test 1 - Flex - Print & Sl1	1250	W100 Rewind/Slitter - Plant 1
MollyTest - test	New	0018	Fall Catalogs	1	Form 1

Use the following instructions to set up any type of group.

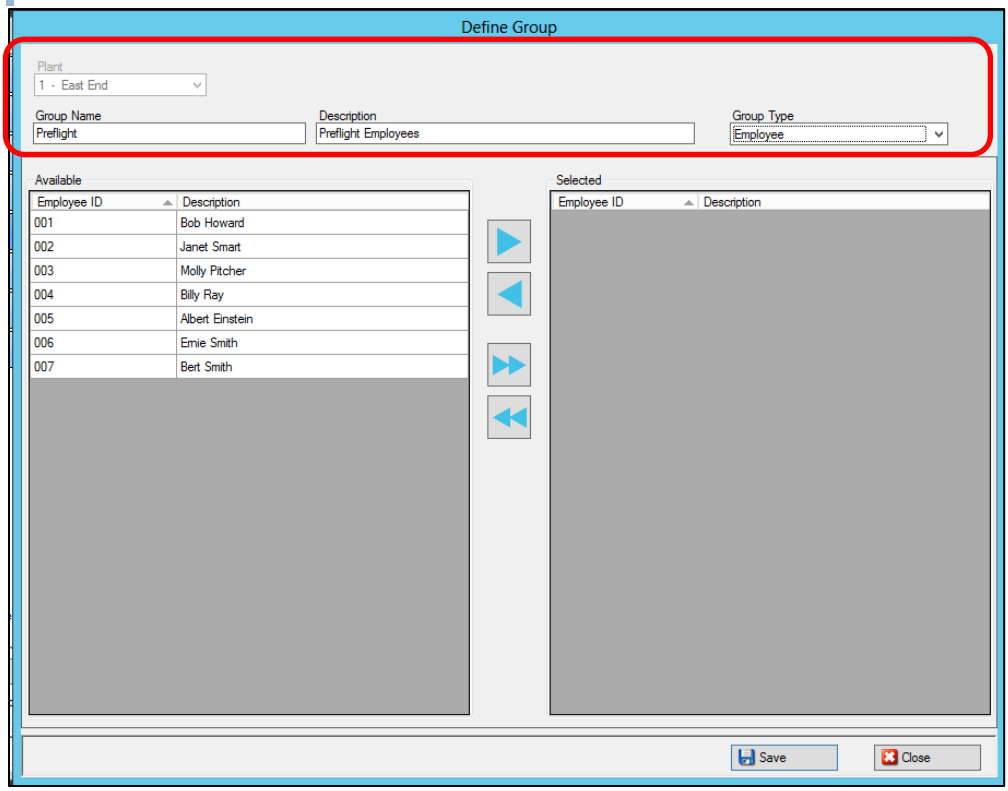
To create groups

1. Select **Maintenance > Groups.** Then click **New**.



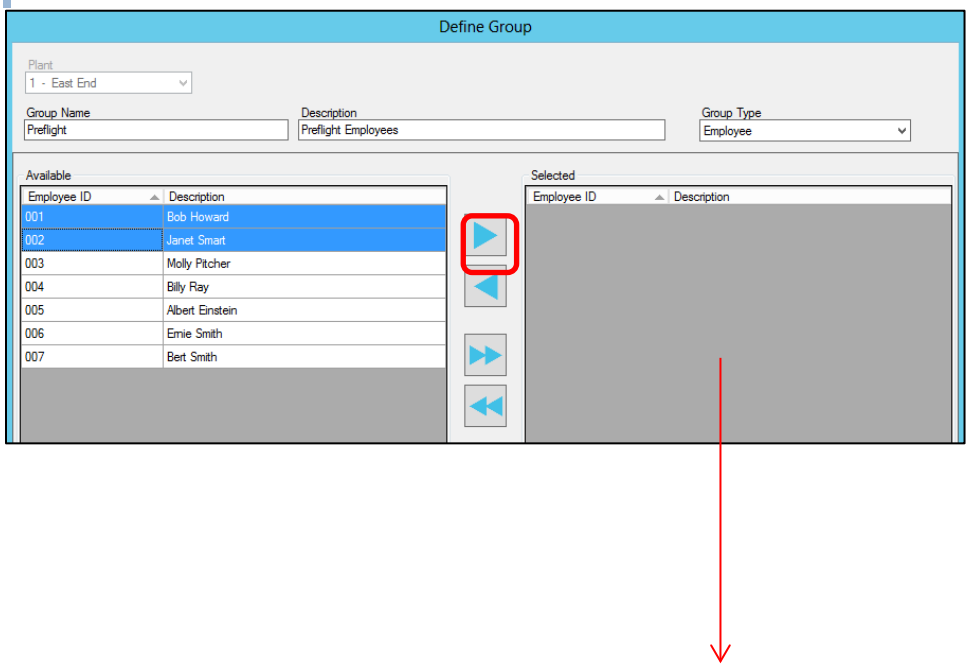
2. In the Define window, select a **Plant**. Then enter a **Group Name** and **Description** and select a **Group Type**.

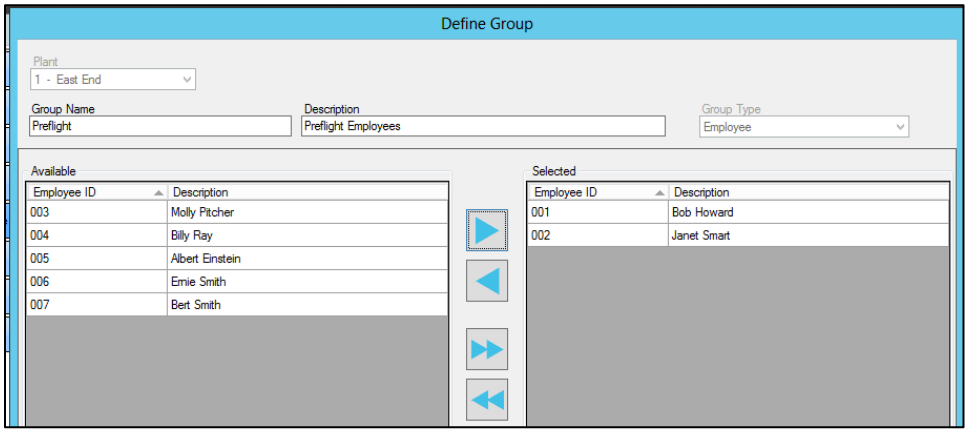
> **Note** The Group Name must be unique. You cannot use the same group name between group types.



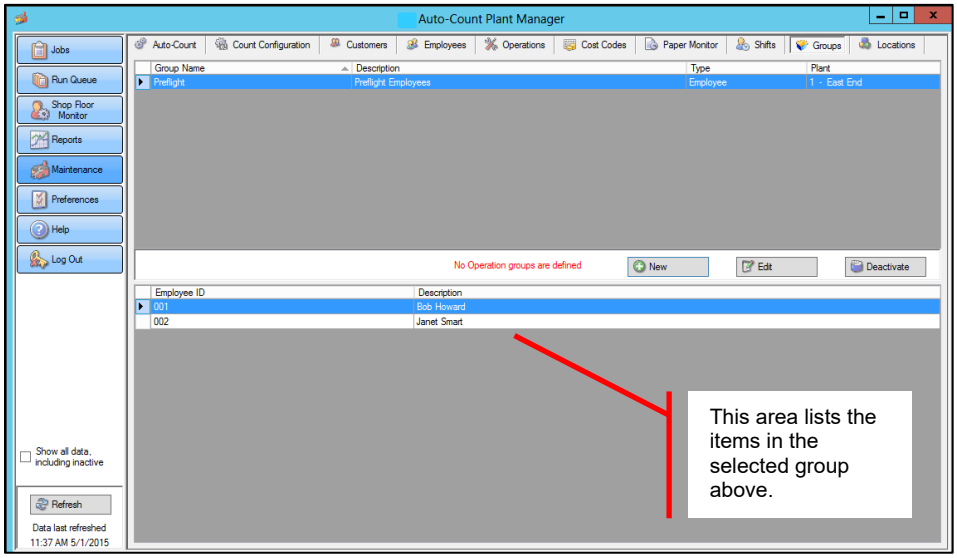
3. Available items for that Group Type will display on the left side. Select those items you want to add and click the Arrow button to move them to the Selected list. One item can be in multiple groups if you wish.

> **Tips** You can use<Shift> key to select multiple items at once. Or use the double arrow buttons to move the entire list.





4. Click **Save**. Now your new Group will be displayed in the Group list.



Machines and Machine Configurations

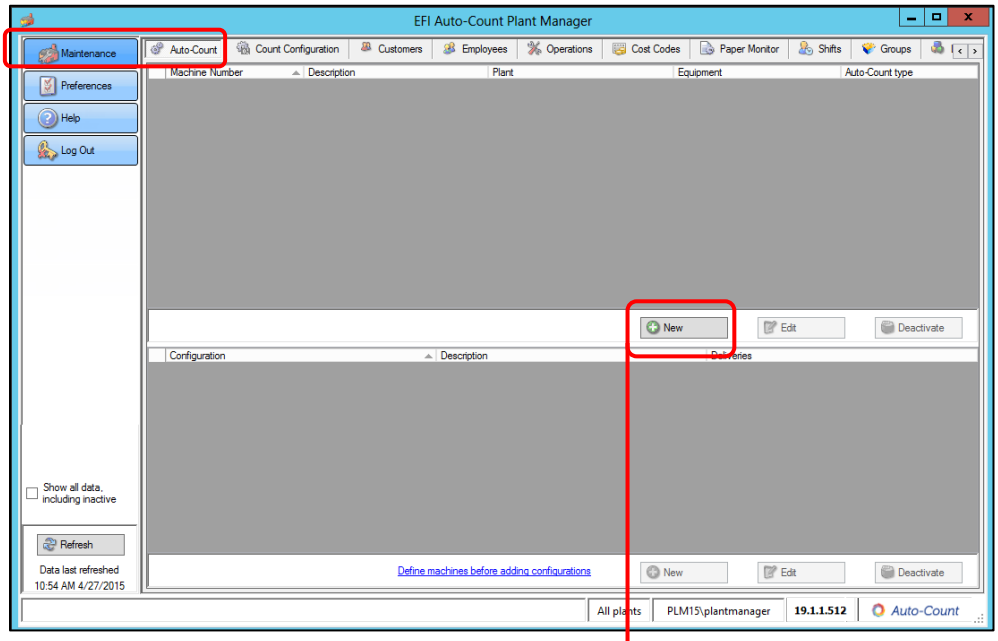
You must create a machine and set up machine standards (configurations) before you can build jobs and forms to run on those machines. The Machines and Machine Configurations you set up here will download to your Auto-Count.

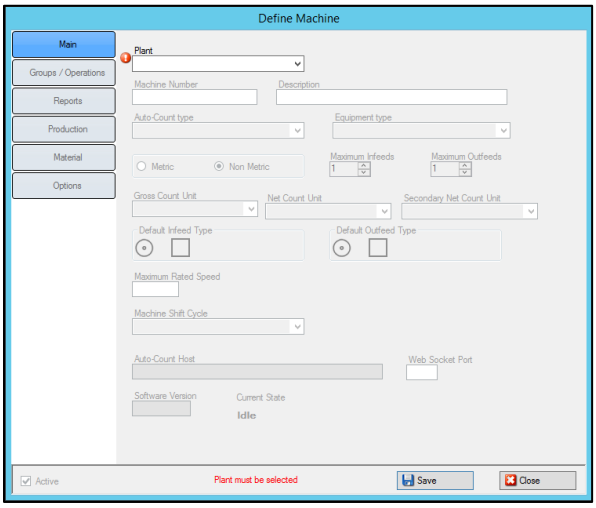
You may have performed this configuration step during installation; if so, proceed to the next section or add additional allow job machines as needed.

> **Tip** Before you start entering machines and configurations, you may want to give some thought as to how you want to assign machine numbers and configuration numbers. For example, if you have a machine number of 650, configuration numbers associated with that machine may be 6501, 6502, etc. You may also use characters in these fields.

To set up a machine(s)

1. Select **Maintenance > Auto-Count**.
2. Click **New** under the machine area to open the Define Machine window. Specify the main machine parameters.





> **Note** Plant Manager will flash an icon  next to the fields which need to be completed.

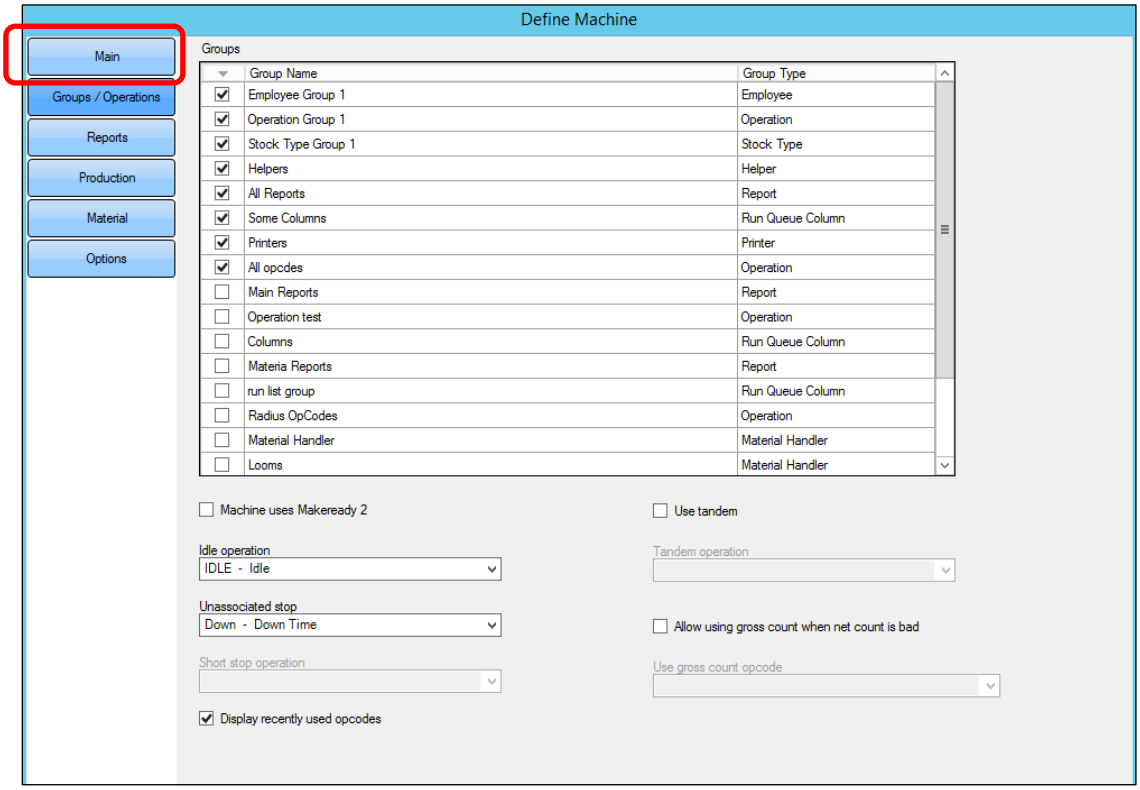
Main

Field	Description
Plant	This will default to the Plant you selected in Preferences. If you chose **All Plants**, you must select a specific plant here to assign to this machine. (Monarch MIS users: this field is called 'company')
Machine Number	Enter a numeric or character value– do not use leading zeros in this value.
Description	Enter a descriptive name for the machine.
Auto-Count type	Select the type of Auto-Count you have installed for this machine. 4D Standard: Designed for high-end equipment. Support multiple input and output feeds, variable UOM for feet, pieces, labels, etc. Does not support scales. 4D Express: Designed for smaller equipment and basic gross/net counts. Only supports one product at a time. 4D Manual: All counts are handled manually by an operator only. 4D Advanced: Supports one scale per outfeed and a shared scale for infeeds. Does not support samples currently.
Equipment type	The type of machine: Bindery, Sheetfed, Flexo, Web, etc. This list contains the types of equipment to which an Auto-Count can be connected as defined when you set up the Plant. If you choose an Auto-Count type of 4D then you will see a list of packaging-specific types of equipment.
Metric / Non Metric	Select which system of measure this machine will use.
Maximum Infeeds	Number of infeeds (i.e. webs) this machine can have. You can have up to 128 infeeds. When setting up a machine configuration, you cannot have more infeeds than what is set here in this field.
Maximum Outfeeds	Number of outfeeds (i.e. deliveries) this machine can have. The equipment type helps to determine if this value is available. You can have up to 128 outfeeds.
	For Unit of Measure counts (Gross / Net / Secondary Net) please see the section Defining Gross and Net Units of Measure for detailed information.
	Count Unit Notes at the Machine Level: • For 4D users, the values you set here are displayed on the Home screen before a job is loaded or in the Select Job details window if a machine configuration is not yet chosen. Auto-Count will use the Count Units from the chosen machine configuration when running a job. • For Classic Auto-Count users, the Count Unit values will default to their values based upon the equipment type you choose. They are read only on the screen in Plant Manager.
Gross Count Unit	(4D) Gross count unit of measure displayed on the **Home** screen before a job is loaded. This must be set to sheets per impression only for jobs run on sheetfed type machines. **Note**: If your machine type is Die Cutter, then you must select Impressions.
Net Count Unit	(4D) Net count unit of measure displayed on **Home** screen before a job is loaded. **Note**: If your machine type is Die Cutter, then you must select Pieces. Also, with a machine where you have a roll type of infeed and a sheet type of outfeed, select net count unit as Pieces. The MIS system should calculate the job in sheets before sending to Auto-Count.
Secondary Net Count Unit	(4D) A second net count unit of measure. The user can toggle between the Net Count and Secondary Net Count. For example, if you want to see output in both Feet and Label. The secondary net count only affects the display and does not affect the way 4D counts.

Read only units: Primary Net / Secondary Net	Select one or both checkboxes to stop Auto-Count from using the primary and/or secondary units as batching quantities. Note, the Machine Configuration Read only unit settings will override these settings
Default Infeed/Outfeed Type	(4D) Select the type of output icon to display on the screen. Roll or Stock/Pallet.
Maximum Rated Speed	The maximum speed this machine can run. This value must be greater than zero.
Machine Time Zone	Select the time zone in which the machine resides.
Machine Shift Cycle	Apply a machine shift to this machine. (This assumes you have already run the machine SQL script per Support's instructions. Contact Support if you want to use Machine Shifts.) If you edit this field, Auto-Count will wait until the current cycle has ended before applying the new Machine Shift cycle.
Auto-Count Host	(4D) This field is automatically populated by the system and displays the server name where the Auto-Count 4D is hosted.
Software Version	(4D) This field is automatically populated by the system and displays the current 4D version.
Web Socket Port	(4D) The default web socket used by 4D. You may change this if necessary.
Current Status	(4D) Displays the current status of the Auto-Count. This is refreshed very frequently so you always see the latest status.
URL Address for 4D	http://plm-16-1/AutoCount/4505 (4D) At the bottom of the page you will see the URL location which you can use to open this Auto-Count 4D machine.

Groups / Operations

3. Click **Groups / Operations**. Assign employees, operations, material printer and helper Groups to this Auto-Count. From the Group list select the groups you want to assign to this machine.



Field	Description
Machine uses Makeready 2	Select this check box if your machine will be using a Makeready 2 process. Auto-Count will capture this information in the production log. If you clear this check box in the future, you must open each configuration under this machine and manually edit the Makeready 2 opcode, as needed.
Use Tandem	Check this option if you want to make this machine available for tandem use. Once checked the Tandem operation code below will become available.
Operation codes represent a specific state the machine is in. They are used to explain reasons for downtime and other states of the machine. You must first select an operation code grouping before selecting a specific opcode.	
Unassociated stop	An undefined stop. This is used as the default stop code until you identify the stop.
Short stop code	If you have selected to handle short stops with an operation code (Options > Advanced > Short Stop), then here you must choose that operation code.
Tandem operation	(*3000 only*) When the machine is working in tandem with another machine and is acting in the role as subordinate (also called 'slave'). See the Plant Manager and Auto-Count Configuration Guide for details.
Display recently used opcodes	When selecting opcodes in AC4D, this will display the most used opcodes (favorites) at the top of the list.
Idle operation	Specifies when there is no work on the machine – time between jobs.
Allow using gross counts when net counts are bad	When enabled, allows an operator to choose an on-screen toggle button called Use Gross Count to switch the count to the current gross count and stop using counts from the I/O point on that output. Select an opcode from the drop-down menu to us when gross count is used. This is used when the net count is incorrect and allows the operator to quickly switch to using the gross count as needed. When the operator toggles to using gross, the selected opcode will be displayed at the AC4D and logged.

Note Once you select an opcode group(s), you can choose default opcodes for this machine.

Radius MIS integrations can send Operation type Groups to Auto-Count and assign them automatically to specific machines.

Reports

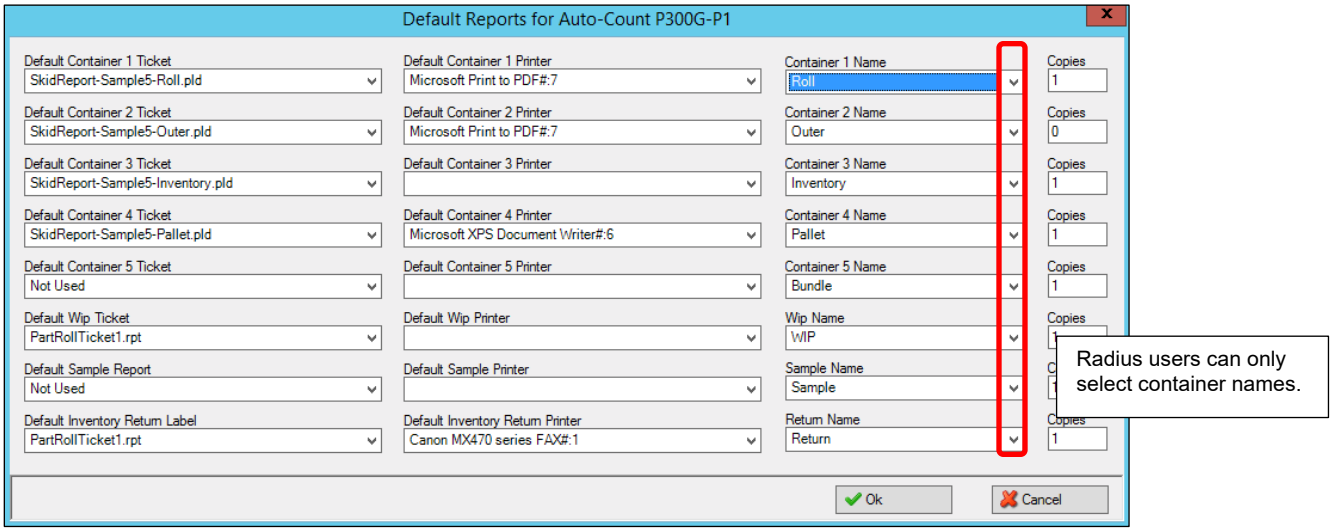
Select Reports to choose the default pallet tickets/labels and printers for this Auto-Count. If you've set up Printer Groups, then those printers will be available for you to choose as well.

- **Default Extension**: Set the default file type to be used for reports.
- **MIS sets ticket copies**: Select this option if you want the MIS to set the number of copies to print for labels and tickets, overriding what is set here in Plant Manager Report settings.

Specific Customers

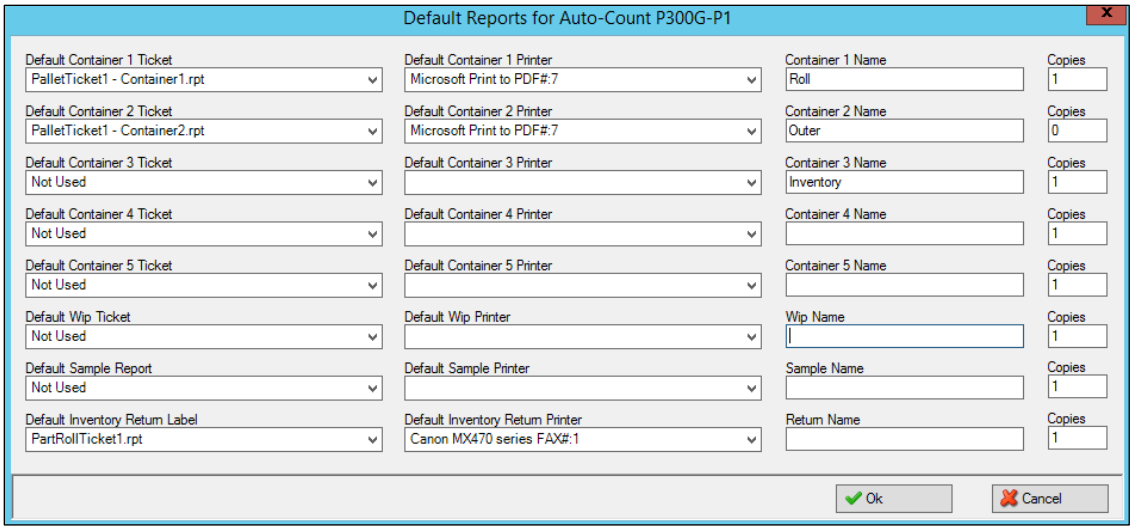
For packaging customers who use Radius or any Vertical Applications Suite customers, the Default Reports window will clearly display container levels. Non-Radius users can edit the Container Name to represent your manufacturing process more clearly. Radius users must select from a drop down and cannot enter free-form text in the Container Name. The default names are displayed below. (Sample Report can be used to generate a report after a sample is taken for those workflows which require sampling.) You can also choose Bundle instead of Roll for the lowest level container.

Radius



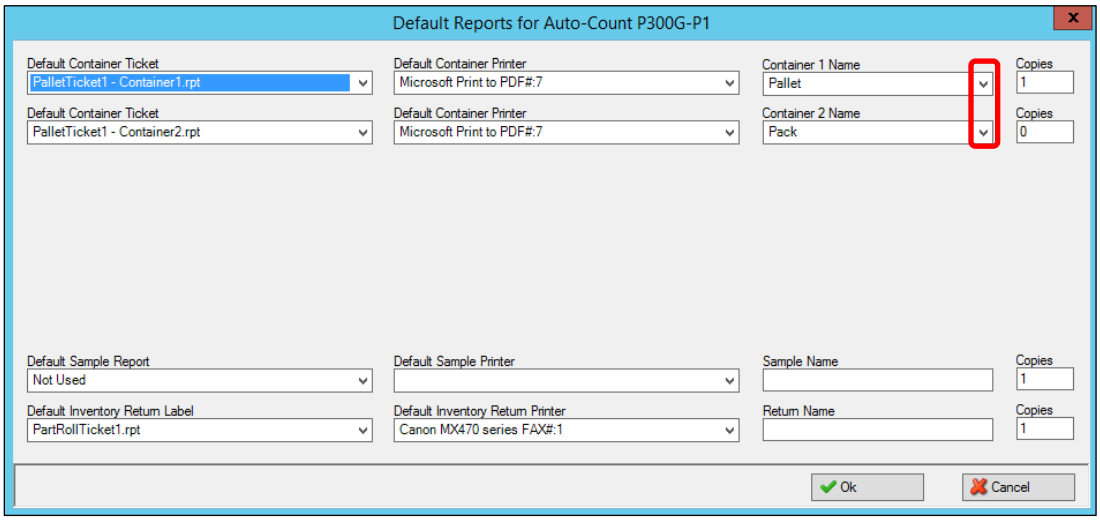
Vertical Applications

Manually enter the container names.



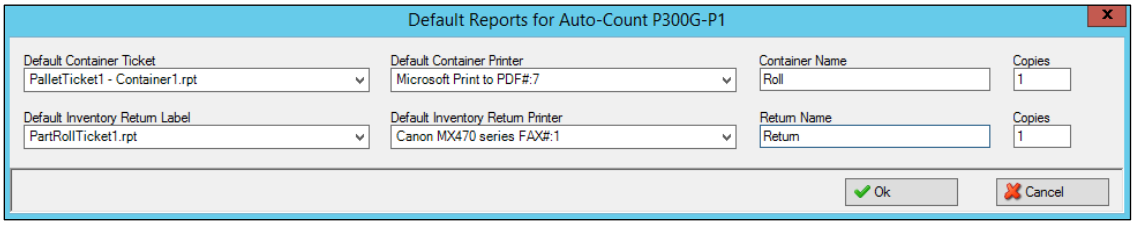
Technique (Publishing) Applications

Select from the drop down either Pallet or Pack. Pallet is for pallet labels and Pack is for Carton labels.



Other Customers

For our non-Packaging and Publishing MIS systems (Monarch, Pace, Corrugated) Auto-Count will display a simplified window.



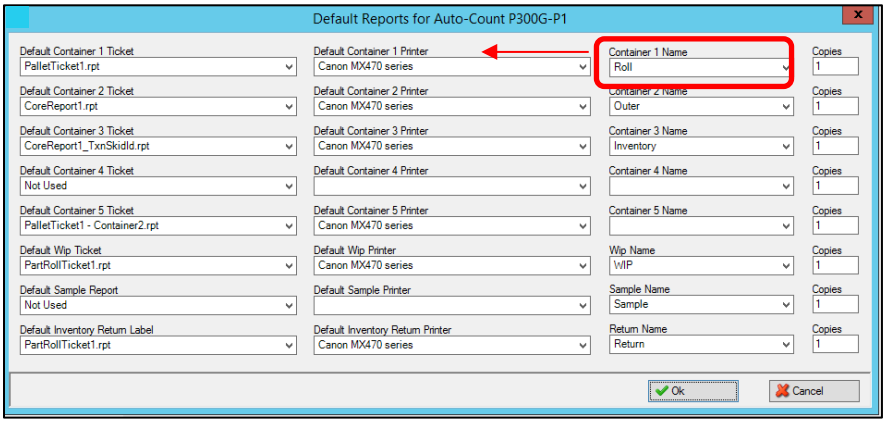
How Auto-Count Selects Reports

Auto-Count uses reports based on how you set up reports in Plant Manager.

> **Note** If your ticket is set to Not Used, then Auto-Count completely ignores it.

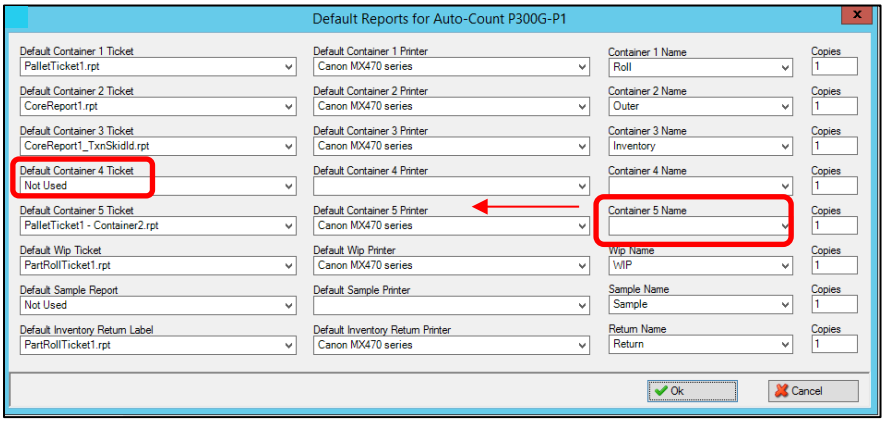
The workflow is as follows:

1 If the MIS sends a container name, then Auto-Count will use that name to match it to a report/printer.



If the MIS system sends the container name=**Roll**, then Auto-Count will find the Container name Roll and use that ticket and printer.

2 If no container name is sent with the job, then Auto-Count will use the report/printer combination that has a blank container name.



If no container name is sent, then Auto-Count uses the first <blank> Container Name.

In this example, it would use container level 5- PalletTicket1 printed to the MS XPS Document Writer.

Note, that it did not use container 4 because that is set to not used.

3 If steps 1 and 2 are not met, then Auto-Count will simply use container level 1.

Report Setup – Use Machine Reports

At the machine level on the Define Machine > Reports window you can set up reports and at the Machine Configuration level you can also set up reports. This can be confusing, so we've added an option to the Machine Configuration screen called **Use Machine Reports**.

When this option is selected, Auto-Count will only use the reports that you set up at the Machine level (Define Machine > Reports) and not the reports at the configuration level. If you want to use Machine Configuration reports, then do not select this option.

> **Note** If you do not select this option and you do not define any reports here at the machine configuration level, then Auto-Count will not use any reports.

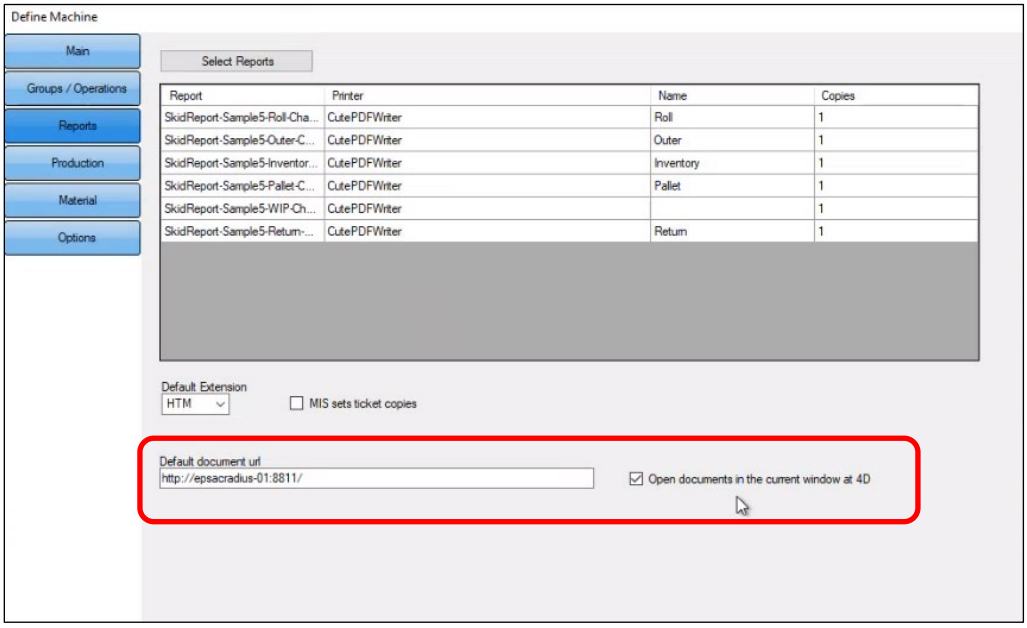
Manufacturing Instructions URL

Note This feature is only available if your manufacturing instructions are accessible via a URL address.

You can create a Quality Question which will require the operator to read a document before running a job. This is very useful for when the operator must adhere to specific manufacturing instructions, especially if those instructions are updated frequently.

To set up this feature, create a Quality Question of type **Document**. Within the quality question, operators will be able to open documents via a URL address sent with the job. If you prefer to use a default URL address instead of sending a specific address with the job xml, then you must specify it in the **Default document url** field.

Open documents in the current window at the 4D: You can also choose to open each document within its own window inside the AC4D user interface (i-frame) instead of opening another browser tab. This will reduce the number of open browser tabs which can be confusing and could affect performance.



You can use these parameters in the default URL address. These are placeholders, meaning the currently loaded job number, task/form number or machine number will automatically be used.

- **{machine}** uses the Auto-Count Machine ID
- **{job}** uses the Job ID
- **{task}** uses the MIS Task ID

The following examples are for Job ABC123 running on Auto-Count C100:

If the default URL is http://server/instructions/{machine}/{job}.pdf, then it will become http://server/instructions/C100/ABC123.pdf

If the default URL is http://server/instructions.aspx?{job}, then it will become http://server/instructions/aspx?ABC123

Production

(4D only) Select Production to define specific machine production preferences.

Makeready	
Makeready end method	Choose how you want to end makeready. **Note** You can always end makeready with an external input. Radius MIS systems do not allow net in makeready. **Basic**: Operator ends makeready manually by pressing an on-screen button. **NetCount**: Ends makeready when a specific net count makeready end threshold is reached. Selecting this also causes the NetCountInMR option to be enabled. **NetPulse**: The first pulse of the net sensor ends makeready. This is like using NetCount with threshold of 1. But this option will work even if the net count is inhibited (by the NonJobStock option for example). Also the net count value will end up in production whereas the net count from the NetCount option will end up in makeready.This option is typically enabled on sheetfed machines that use the NonJobStock option. **GrossCount**: Ends makeready when a specific gross count makeready end threshold is reached. **GrossPulse**: The first pulse of the gross sensor ends makeready. This is like using GrossCount with threshold of 1. But this option will work even if the gross count is inhibited (by the NonJobStock option for example). Also the gross count value will end up in production whereas the gross count from the GrossCount option will end up in makeready.This option is typically enabled on sheetfed machines that use the NonJobStock option. **GrossSpeed**: Ends makeready when the gross speed goes above the Makeready end threshold. **NetSpeed**: Ends makeready when the net speed goes above the makeready end threshold.
Makeready end threshold	The value at which Auto-Count will end makeready and go into production. This is enabled only when certain Makeready End Method options are selected.
Makeready end seconds threshold	The number of seconds the Makeready end threshold value must be maintained before Auto-Count 4D will end makeready. For example, if you chose Gross Speed, then the gross speed must be maintained for ‘x’ number of seconds before Auto-Count will end makeready. This option is only available for Net Speed, Gross Speed, and Net Count.
Allow net count in makeready	Auto-Count will count net during makeready. (Radius MIS systems do not allow net count in makeready.)
Disable on screen makeready end	Won’t allow users to manually end makeready from within Auto-Count 4D. Users can still turn the count on/off within Auto-Count 4D.
Allow makeready end while stopped	Allows users to end makeready when the machine is stopped. The run will start in a downtime and the user will have to identify the downtime.
Detect Stops in makeready	Once you’ve started the machine in makeready, this option will automatically detect stops which you must identify in the Production Log.
Ignore Makeready	(*Auto-Count Manual only*) This option allows Auto-Count to skip Makeready and go directly into Production when you start a run. Please note this feature should not be used with jobs that require the user to select traceable material. This option has no effect on Auto-Count types other than Manual.
Ignore net inhibit signal while in Makeready	Allows an operator to toggle the Netinhibit outfeed without ending Makeready. This does not affect other Makeready End options that you have enabled.

Run	
Disable Run Queue	Select this option to hide the list of runs in the Run Queue. Instead, a user will simply search for a run. This option is useful if you have many machines in your run queue which can degrade the Run Queue performance.
Number of completed items to send with run queue	Select the maximum number of completed runs sent to the Auto-Count Run Queue. The default and maximum value are 10. If set to 0, then it will reduce the SQL query time and should improve performance if necessary. This also applies when the run queue is disabled and a search is performed.
Disable My Group	Disables the My Group button from the operator's Run Queue page. Just the scheduled jobs for your machine will be listed.
Allow count reset when restoring runs	Allows you to reset the counts to zero when restoring a run.
Scale quantity by number up	Select this option to multiply the run quantity by the number up value. Typically used when the planned run uses impressions but the machine it will be produced on counts in per piece units such as signatures. **Warning**: Radius users typically should not have this option set.
Ignore Planned Products	Select this to ignore any planned products for this machine and always create a single default product. This is useful on machines like a sheetfed press where you may want to count a single sheet product even if there are multiple planned products on a sheet. **Monarch MIS:** Only select this option if you are *not* sending pallet information from Auto-Count. (If the feature Options > Advanced > Send pallet information to Monarch MIS is selected, then do not select Ignore Planned Products.)
Allow run swap in makeready	This option allows the operator to switch the current run for another run (swap out) during Makeready. Auto-Count will then apply any data already recorded on the first run to the new run. This is useful if the operator accidently selected the wrong run. **Note**: If you have **Run jobs in order** enabled, the **Allow run swap in makeready** option will override it.
Require machine configuration choice	Requires the operator to choose a machine configuration when loading a run.
Split/Merge Deliveries	This option allows you to choose how this machine will handle deliveries for a single product run no matter how the run item was originally created. • **Use Default**: Use the planned delivery configuration for the run. • **Always Split**: Each instance of the product (number up) will be split to its own delivery. For example, a 2-up run will be split into two 1-up deliveries. • **Always Merge**: If a product is planned with multiple deliveries, this option will automatically merge them into one delivery. For example, a run with a product going to two 1-up deliveries will be merged into a single 2-up delivery.
Maximum Filter Hours	Use this feature to filter the run queue by scheduled start time of runs. The default is 24 hours meaning Auto-Count will only display runs scheduled to start within the next 24 hours from the current time plus any runs which have not started yet but were scheduled to run before the current time. 0 hours will disable the feature and will display all runs.
Run end percent	This option is the percent value at which the run is considered complete. If a user tries to end the run before this value is complete, then Auto-Count will warn them that the run is not complete. If the To Go value on the run is met (100%) and the user tries to suspend the job, then Auto-Count will warn them that they should end the job since the run complete value and the To Do value have been met.
Edit Current Run Quantity	Allows operator to edit the Quantity To Do for the current run. This edit is local and will not save to the MIS.
Auto run options	Select how you want to queue and automatically switch from one run to the next.
None	Don't automatically switch runs.
Enable Auto/End Next without Run List	(Use to queue one run at a time.) This option will automatically end the current run once it is count complete and the machine stops, then it will load the next run from the Run Queue.

	To queue the next run, operators must select the Next column next to a run in the Run Queue. (This will not enable the Run List.) If another run is not queued, then the current run will end and go into Cleanup. If you want to change material on the second run (see *Use paper setup for each run* below) you must first queue the run and then edit the material, otherwise any run queue updates could override the material changes.
Enable Auto/End Next with Run List	(Use to queue multiple runs) This option will automatically end the current run once it is count complete and the machine stops, then it will load the next run. To queue multiple runs, click the Next column from the Run Queue. You can then click the My Run List button to adjust the run list as needed. If it is the last run in the list, then the run will go into Cleanup.
Enable Zero Makeready	(Use to queue multiple runs without stopping the machine) This option will automatically end the current run once it is count complete. With the machine still running, Auto-Count will then load the next run from the Run List directly into production, skipping makeready. If it's the last run, the run will go into Cleanup.
Enable Zero Makeready by WIP material	This option automatically ends the current run and loads the next run from the Run List when the WIP material changes, instead of changing at count complete. Auto-Count will choose the next run based on the WIP material and not the Run List order.
Use paper setup for each run	Select this option if you do not want Auto-Count to inherit the paper from the previous run on the current run when using Auto Run workflows or just queuing up the next run using the Next column in the run queue.
Allow Users to Suspend Pallets	Enable this option to allow users to suspend partial pallets when they suspend a run. Suspended pallets will be restored when you restore the run.
Maximum Waste Pallet Quantity	When enabled, operators cannot waste more than what is on the current output.
Ignore Net Enable Input below machine start speed	When selected Auto-Count will ignore any defined Net Enable signals when the machine is below the configuration start speed.
Remove Suspended Run from Run Queue	This option allows users to suspend a run and have it removed from the run queue to prevent others from loading it. Once the run is ready again, the MIS must update Auto-Count to display the run in the run queue.
Create Runs at the Auto-Count	This option allows users to create basic runs at the Auto-Count for existing jobs. **Note**: This is not available for Radius integrations. If your Auto-Count 4D is not installed on the same computer as the Plant Manager Browser, then you must enter the URL to the Plant Manager Browser server in the Advanced Settings window in **Add runs Url** using this link where [server] is the name of the server machine where you installed Plant Manager Browser: http://[server]/PlantManager/PWCScript.aspx?dir=PlantManager&script=AddRuns.xml&display=embed It also requires Reporting Service to be on the same machine as Plant Manager Browser (to locate PLMB) and that you run Plant Manager Configuration to obtain the correct scripts.
Use Previous Run Code	When the operator chooses a specific run code, then that chosen code will be used instead of the default run code for the rest of the run, including overrun if the overrun code is the same as the run code. (Default run codes are set at the Machine Configuration level.) For example, if the operator chose Run Code A and the machine stops and goes into a Stop Code, then once the machine restarts and production begins again, Auto-Count will use Run Code A instead of the default run code. **Note**: If your machine is set up so that the Machine Configuration's default Overrun code is the same as the default Run code, then if an operator is in Overrun and adjusts waste to go back into production, Auto-Count will use the last chosen run code – not the default. But if the machine configuration has a different default Overrun code from the default Run code (which is the more common setup), then Auto-Count will reset and use the default Run code if the run goes from Overrun back into Production.

Allow users to start completed runs	Allow users to load completed runs/tasks from the run queue. Only the last 10 completed runs are available for this feature.
Run jobs in order	Only allow operators to run jobs in order by Setup Start Time which is sent down by the MIS system. Supervisor approval is needed if you want to load jobs out of order. This option is disabled if any of the Auto Run Options are enabled. **Note**: If you have **Run jobs in order** enabled, the **Allow run swap in makeready** option will override it if enabled.
Ignore Suspended Runs	This allows only the first "new" run to be loaded at 4D without supervisor permission and allows any suspended run to be executed out of order.
Count	
Default Number Up to 1	When a run is built, the Number Up value will always default to 1. We recommend this option if you use an MIS system which cannot send the correct Number Up value to your Auto-Count.
Allow counting adjustment	These options allow the operator to adjust the number of items per block that are counted by a count sensor. You can choose to adjust the count on the net count, gross count, or both. For example, if you are using a net sensor and want to count Net per Block, then on the main screen you would set the number of envelopes (net per) that are within one box (block) being produced on that machine.
Net Per Block options	**Net Per Block set by MIS** If using Net Per Block, then this feature allows the MIS to automatically use the inner most container size as the Net Per Block value. Users can still manually update the Net Per Block value by changing the container size on the Output window. **Scale Net Pet Block by inner container** Allows the user to enter the Net Per Block value as the number of the inner most container, while still calculating the total quantity within those containers. For example, if the net sensor counts number of boxes which contain rolls and the user enters number of rolls in a box (Net Per Block), then Auto-Count will calculate the total length in the box.
Maximum block size	This value is the percentage of the run qty and is used as the maximum limit when entering Net/Gross Per Block. On the Main scree, when users enter a value larger than this for the Net/Gross Per Block, Auto-Count will ask if it is correct. This option helps prevent incorrectly entered values. The default is 100%, the entire run qty. Enter ‘0’ to turn off this option. We recommend a lower value like 10% if you want to use this option. **Note**: If you’ve enabled Net Per Block by MIS, then this feature will not warn users, as they can only adjust the qty from the Output window. This feature only warns users when entering NPB from the Main screen.
Counting in bundles	Turn this feature on if you are using a machine where you need to count in bundles such as a palletizer. This will allow the operator to set the bundle size when selecting the material.
Maximum count entry (4D Manual)	Enter the maximum net count a user can enter at one time. This is not a limit on the total amount for a run. This is to prevent users from accidently scanning large values. (4D Manual users only.)
Enter Net Count (4D Manual)	Select this if operators enter counts in Net values rather than in Gross values. On this machine, AC4D will then calculate the gross value from the net. (4D Manual users only.)
Remove Enter Waste Field	When enabled, removes the Enter Waste text box on the Home screen. To enter waste, users must open the Enter Waste window by selecting the Waste value itself.
Allow number up change	For single outfeed jobs, allow the operator to change the number up value.
Default to all stackers	When running a one-product job, this option will use all available stackers on the machine instead of using just the first stacker.
Downtime	
Allow Unidentified Downtimes	Select this if you want to end a run without having to identify downtimes. Even with this option turned on, the stops will still be highlighted in the Production Log and the warning triangle will still be displayed.
Allow splitting downtimes	Select this if you want to split one downtime into multiple downtime events with separate reason codes and durations.

When to disable net count at downtime	Choose when you would like to stop the net count when a downtime occurs.
	Don't disable net count when a downtime occurs: If you do not want to stop the net count during a downtime then select this option. (default) **When the machine has stopped**: The net count will automatically stop counting when the machine stops. **When the machine has stopped and stop seconds have elapsed**: Net count will be disabled once the stops seconds have been reached after the machine has stopped.

Material

(4D only) Select Material to define specific machine material preferences.

Material	
Disable input materials	Users cannot enter material inputs from the Auto-Count. The Input button on the Material window will not be available for any run associated with this machine.
Disable Input from main screen	When this is selected, the user can click the input icon on the main window to disable *all* inputs at once. If this option is not selected and the user clicks the input button on the main window, AC4D will open the Materials > Input window. In either case, *if materials are on the input*, then the user will be prompted to end the selected input.
Keep input materials by default	Select this option if you want to automatically use the current input material on the next run and not be asked by Auto-Count what to do with the material at the end of each run. You will not be prompted at the end of the run, instead, when you load the next run that input material will be used. **Notes** • Material validation is available when the MIS sends Auto-Count a specific material to be used with the run. Therefore, if you have this feature turned on and the operator loads a run which requires a specific material to be used, Auto-Count will use the kept material only if it matches the required material for that run. • If you have *Keep input materials timeframe* (below) turned on, then Auto-Count will only keep the materials for the next run within this timeframe. Otherwise, materials will not be kept for the next run.
Confirm end of run consumption	When an operator ends a run and choose to consume the remaining input material, this option forces the operator to confirm this choice.
Allow input reject at end of run	Allows operators the option to reject an input material and assign a damage code when they end a run.
Keep consumable materials by default	Select this option to make keeping the current consumable material(s) the default selection at the end of the run. If the next run does not contain a recipe (Consumables tab), then the consumables will not be retained.
Keep input / consumable materials timeframe	Enter the number of minutes that Auto-Count will keep the input and consumable materials for the next run once the current run has ended. Beyond this timeframe, Auto-Count will not keep the material on the next run and Auto-Count will force the operator to scan a material. Enter '0' to disable this option. This option applies when Auto-Count prompts the operator at the end of the run and they choose to keep the material for the next run. It also applies if you have set up Auto-Count to automatically *Keep input materials by default* (see above.)

Allow material to override the input type	Select this option to allow the 4D to accept a material type other than the machine default. For example, a machine is setup as sheetfed but you may also run rolls on that machine. **Note**: With this turned on the Qty UOMs may not match on the input window and you cannot toggle between UOM.
Use scanned material quantity (4D Manual)	Scan input material to automatically use the quantity in the Enter Count field. This is used for when an operator wants to scan the pallet quantity and directly use that value as the Gross count on the run. Can only be used for sheetfed material. **Scanned material quantity added at material end**: The material quantity will be added to the Gross count when the input is manually ended.
Allow returned inventory to be edited	Allows the operator to edit the quantity of material being returned to inventory when a run is ended/suspended. This does not affect counted material – just material being returned. You cannot return more than the original quantity scanned. If you enter a zero, Auto-Count will 'consume all'. When enabled, the field **Current Quantity Used** displays on the Input window when returning material to inventory.
Scale gross by active infeeds (4D Advanced)	This option scales the gross count by the number of active infeeds. For example, if there are 15 active infeeds, then each gross pulse will generate 15 gross counts. An active infeed is defined as one that is enabled in the user interface (on screen) and which is also not inhibited by I/O. If the infeed is disabled by either UI or I/O, then its count will stop, and it will not contribute to the gross multiplier. If all infeeds are disabled, then you will get no gross counts.
Display available materials	When enabled, AC4D will list the available materials for the current job on the Materials > Input screen.
No. of available material items limit	Set the number of material items to display in the list. Default is 20.
Available items query window	The minimum number of seconds before AC4D will query the database to update the list of available materials.
Pallet/Roll	
Disable output pallets or rolls	Users cannot create pallets or rolls as outputs for a run. The Output button on the Material window will not be available for any run associated with this machine.
Disable ticket printing	If you would rather print pallet tickets from your MIS system (if it is supported), then select this option. This option will disable printing of tickets at the Auto-Count and, instead, print them from your MIS system if that is available.
MIS ticket printing	Choose this option if you only want to print pallet tickets through your MIS system. Auto-Count will send the pallet ticket information directly to your MIS for printing. Your MIS system must support this option.
Minimum butt roll length	Rolls of less than the minimum butt roll length cannot be sent back to inventory as butt roll and instead must be fully consumed/finished.
Minimum Input Size	This is the minimum input size allowed when the input is measured in non-length items such as pieces, sheets, etc. (If using inputs with the UOM of length then use the field Minimum butt roll length.) If the number of items is less than this value, the input cannot be ended. The default value is 10 items.
Minimum Output Size	This is the default minimum output size allowed. This prevents a user from accidently entering a very small value, resulting in Auto-Count creating a huge number of pallets/rolls. The UOM used is the Net UOM of the run. The default value is 100.
Enable pallet/roll editing	Select this option to edit rolls/pallets after they have been produced. This is helpful if there is a mistake and you must update the roll/pallet value.

	Warning: To use this feature your MIS system must be able to receive updated pallet/roll quantities. **Pallet/Roll edit timeframe**: This is the number of minutes available in which a user can edit the pallet/roll after it has been created. If you set this to '0' then a user can edit a pallet/roll quantity any time after it was created.
Ignore partial outputs	When enabled, Auto-Count will not send partial output values (not containers) to the MIS system at the end of a run. **Note:** If you use this option and are creating master rolls, you must manually end the last roll output before ending the run, otherwise it will not be sent to the MIS system.
Displayed container length will round up	Auto-Count will display fractional container output lengths to the next whole number. For example, if the roll length required is 522.1 then Auto-Count will display this as 523. So, if you require the operator to use the value in Auto-Count to set the output length on the machine, this option will help to avoid producing rolls that are too short.
Allow outfeeds to be disabled	When selected, users can disable outfeeds (and associated stackers and palletizers) during a run. Once disabled, Auto-Count will end the output and no longer generate counts.
Max Pallets to Display	The maximum number of completed pallets/outputs that Auto-Count can display in the Outputs window. The default is 10 and the maximum is 100. (Higher values may affect performance.) For browser-based Auto-Count machines like Packing station, the maximum is 2000 to display. Also, if this value is set to 0 then the default display value is 20 for these machine types.
Hide complete button	(*AC4D Manual*) Hides the Complete button in Packing Station. The Complete button closes the packing task in the MIS system and PrintFlow, typically used when Packing Station is the final step. If this is not your workflow, we suggest hiding the Complete button.
Pallet Overrun	If the final pallet quantity is equal to or less than this percentage of a full pallet, then merge it with the previous pallet to create a final pallet for the drop shipment. This avoids creation of small partial final pallets. For example, if you have a drop shipment with a quantity of 1025 and a pallet size of 500 and you set this value to 10%. If the final pallet's count is 50 (500x10%=50) or less, then Auto-Count will merge that value with the previous pallet and consider that the final pallet. In this example, Auto-Count will produce two pallets, one of 500 and one of 525 which equals the drop shipment of 1025.
Splice Tolerance	
Enter % of length values (Under / Over) to create a window of length in which automatic roll splices are expected. For CTI users: If CTI sends live material updates to Auto-Count, then set these options to zero.	
Under Tolerance %	If a splice occurs before this value (Under), the user will be prompted to reject the roll. For example, if the roll is 100m long and this is set to 5%, then we will display an early splice warning if a splice occurs before 95m.
Over Tolerance %	If a splice does not occur before the Over value has been reached, the user will be prompted to confirm a missed splice. For example, if the roll is 100m long and this is set to 5%, then we will display a late splice warning if a splice does not occur by 105m.

Auto Paper	
Enable Auto Paper	Select this to turn on the Auto Paper feature which automatically creates paper consumption transactions from the gross count during a run. The materials must be sent with the run from your MIS system.
Post transactions at shift end	Posts Auto Paper transactions automatically when the shift ends. This is in addition to the material transactions which are posted at the end of each run. This option is good to use if your runs tend to span shifts and you want material transaction data before a run ends.
Count By Sheets / Weight	Choose the machine's counting method depending on the typical material used on the machine (for example rolls or sheets.) If you choose count by weight, then this machine will always count by weight no matter the material used. Select Count by Weight or Sheets if you want Auto-Count to choose the appropriate counting method based on the current material being consumed on the machine.
Display By	You can choose the type of material to display in the Default Material drop-down list. (roll stock or paper/sheet stock)
Default Material	This is a list of paper inventory items from your MIS. Select a material which will be used as the default material for runs which do not have assigned materials. Users still have the option to change the default material before they start the run. **Note**: This option is not required for the Auto Paper feature.
Output Weighing	
Enable output core weighing	Select this option to set up a sensor to weigh a roll core (empty) or empty pallet on an output. With this option turned, on Auto-Count will display a weigh output icon in the sidebar menu. Operators can click Weigh buttons from this screen. **Note**: If this is enabled, output tickets will not print until the output is weighed.
Enable output weighing	Select this if you weigh completed outputs using a scale connected to the AC4D machine. With this option turned, on Auto-Count will display a weigh output icon in the sidebar menu. Operators can click Weigh buttons from this screen. **Note**: If this is enabled, output tickets will not print until the output is weighed.
Enable output weighing at Weigh Station	(Plant Manager Web only) Select this to weigh an output at the Auto-Count Weigh Station and not at the AC4D machine. The ticket will print when the output is complete, but without a calculated weight. **Note**: You must disable Enable output weighing if you want to print tickets without any weight.
Gross weight contains waste (live scale)	Select this option if your gross weight typically includes waste weight. For example, if your workflow includes weighing an output before waste is removed, then select this option. When selected, Auto-Count will remove the waste weight from the gross before sending it to the MIS. **Note**: To be used with live scales – not if entering weights manually.
Subtract core weight from gross weight (live scale)	Select this option to subtract the core weight from the total gross weight of an output. Auto-Count will only report the weight of the material/product. When enabled, a message will display on the Weighing screen to warn users that the core weight is not included. **Note**: To be used with live scales – not if entering weights manually.
Weight sent to MIS includes	Choose how to calculate the weight that is sent to the MIS. This option only affects the weight value sent to the MIS - what Auto-Count saves in the database (gross, core and waste weights) remains the same. This option may be used with live scales or manually entered weights. But we suggest if using only live scale weights, then use the options above instead.

	All Gross weight of the entire output. Product + Waste +Core **Product** Only the weight of the Product. **Core** The weight of the Product and Core. **Waste** The weight of the Product and Waste.
Enable output weighing at Weigh Station	(Plant Manager Web only) Select this to weigh an output at the Auto-Count Weigh Station and not at the AC4D machine. The ticket will print when the output is complete, but without a calculated weight.
Force a specific item to replace a quarantined output	Check to force the operator to pick a specific replacement output bar code when quarantining an output. If not selected, then the first available output will be used to replace the quarantined one. This allows the operator to hand-pick a replacement for a quarantined output.
Quarantine code for partial outputs	The code selected here is used to automatically quarantine all partial pallets which remain when a run ends. These quarantined partial outputs are not placed in a container and will require rework or some other intervention. If this code is blank, then partial outputs are added to the last container which is the default workflow.

Options

(4D only) Select **Options** to define general machine preferences and Advanced options. Click **Save** and **Close** when complete.

Idle	
Prevent unidentified idle time	Forces users who log out during Idle to identify the reason for the Idle in the Production Log. If using Machine Shifts, this will also prompt users to handle any Idle time during their shift. For example, if the shift started at 8:00am but the operator does not start setup until 8:10am, Auto Count will then prompt the user to either move the start of the job back to the end of the last opcode, overwriting the idle time. Or, define the idle time with a specific idle code.
Idle backfill threshold	When starting a run from Idle, this determines whether Auto-Count will use the previous event's end time as the next run start time. This option helps operators remove unnecessary Idle time from the logs. For example, if this value is set to 2 minutes then when an operator starts a run from Idle, Auto-Count will detect if the last event occurred less than 2 minutes ago and use that end time as the next run start time.
Non Job Stock	
Enable Non Job Stock	Use the non job stock feature which allows you to use stock not allocated for the job to help with prepping and troubleshooting the run and will not include the non job stock in your gross or net count. At the end of makeready, Auto-Count will ask you if any of the non job stock used should be counted as job stock.
	Start run in non job stock mode: Select this to always start jobs in non job stock mode.
	Only use Non Job Stock in makeready: Select this option to only use non job stock while in makeready (you can still use job stock in makeready.) Once the run goes into production, only job stock can be used.
	Makeready End Offset: Number of Sheets/Items in the machine that were counted as Non Job Stock but haven't exited the machine yet and need to be included in the gross count.
Operation	
Allow stop codes in makeready	Allows you to use the operation stop codes during makeready.
Allow non-chargeable in idle	This allows an operator to use an operations code that is defined as a Stop and set it to Non Chargeable. This is useful when performing maintenance tasks.
Allow 'Idle' during any machine state	Allow users to choose an Idle operation code during any machine state. For example, use this option if you must step away from the machine for an extended period during a run.

Do not redefine Clean-Up code	Allows operator to edit a Clean Up code to another code but Auto-Count will retain the Clean Up code and its time in the production log. If the option is not selected which is the default behavior, the new code replaces the Clean Up code in the log and takes on the time accrued under the clean up code before it was redefined.
Speed	
Use Machine Speed	Select to display the machine speed in Auto-Count. You must set up an input with the Tag 'Machine Speed' from Plant Manager > DMI Devices > Options. In some cases, users may need to track machine speed by another input on the machine other than the gross and net counts and would use this feature.
Machine Speed Unit	Enter the machine speed unit of measure (Unit/Time) which will be displayed on the Auto-Count. For example, Min/Hour, Feet/Minute, Ticks/Second, etc.) This is fully customizable to suit your needs.
Display Area Speed	When using a machine speed, you can display the area processed per hour on the main window. This option only makes sense if you are using a Nozomi machine with Auto-Count and are counting Net in Sheets UOM and the form has a width and length value.
Helper (To enable this option you must add a Group type of 'Helper' to this machine.)	
Logoff helpers manually	You must manually log off the helpers. Without this selected the helpers will be automatically logged off when the employee on the shift logs out.
Helpers grace period	Enter the number of minutes for the helper grace period. The helper grace period ensures that helpers who log in before the current shift ends will not be automatically logged off when the next shift begins. For example, if this value is set to 5, then any helper who logs in with less than 5 minutes to go on the current shift will remain logged in when the next shift starts. This ensures that helpers who log in a few minutes before their shift begins will not be logged out.
Only known helpers	Operators are only allowed to add helpers who are employees in the Plant Manager database. This may be a requirement for certain MIS systems. The '+' button will not display on the Select Helper window.
Calculated time to go	
These selections affect how the Time To Go value is calculated.	
Speed used for time to go calculation	Select which speed will be used to calculate time to go: **Current:** Uses the real-time speed of the machine. **Average Net Speed**: Uses the average net production speed. (Net Count / Running Time) **Planned Speed:** Uses the planned production speed which comes with the run information sent down to Auto-Count.
Include Stops	If using the Average Net Speed, this option will include any stop time in this calculation.
Include Scheduled Shuts	Includes scheduled shut down times (shuts). If you are using PrintFlow Scheduling and your MIS system supports this feature, then Auto-Count can receive the shut and shift pattern information from PrintFlow to calculate Time to Go values. When using this feature, Auto-Count 4D will display an information icon in the Time to Go area of the main window. From there you can click the area to display which shuts are included in the time to go calculation.
Operator	
Enforce password expiration	If your MIS supports password expiration, then Auto-Count will start warning users to change their password 10 days before it expires. If they do not change it, they cannot log into Auto-Count. If this option is not selected, then users can log in with expired passwords.
Rework	
Enable 'Rework' on this machine	Select to turn on the Rework feature. If your MIS system supports this, the user will be able to click the Rework icon when the machine is in Idle and enter/scan a pallet to perform rework on those items. Auto-Count will send the rework information along with the original run information to the MIS system where a new task can be created and tracked for costing purposes. This is only available for single-layer runs.

Dashboard	
Speed Unit Label	Enter a text label for the unit you are counting (speed unit.) For example, Boxes or Feet.
Speed Measure	Select a value for the time unit value by which you want to count. Either per minute or per hour. If you do not want to count in time units then select the blank option here. For example, if you have a Nozomi printer which simply counts number of boards produced, then leave this blank. "Per Minute" is calculated as: (qty / duration in seconds) * 60 “Per Hour” is calculated as: (qty / duration in seconds) * 3600 **Note**: the quantity is metric or converted to imperial, if necessary, before the speed is calculated.
Show Dashboard Quantities in Impressions	Select this option to display quantities in Impressions or Sheets instead of the Net Unit. If using Plant View, then this will display Quantity to Go and Speed in Sheets / Impressions.
Waste	
Send Waste Blocks to MIS	When selected, waste blocks and waste reason codes are sent to the MIS/ERP along with production data.
Mandatory Waste Codes	When selected, operators must enter reason codes for all waste generated during production.
Disable waste entry on main screen	Prevents operators form manually entering waste from the Home screen.
Display Options	
Show length in gross units	For length-based jobs only, AC4D will display all values on the Main screen in terms of gross values. For example, on a slitter machine with multiple deliveries, the user will only see quantities on the main screen in terms of gross count.
Enable winder allocation	Allows the operator to open the Allocate Products window to assign products to winders. The 4D machine must be set up with more than 1 outfeed to use this feature.
Hide job title/description	Display only the Job ID on the Home Screen.
Advanced	
Downtime Detection	Allows you to define what is considered downtime for a machine. Downtime begin options define how the run goes into downtime. The Downtime end options define how the run comes out of a downtime – when the machine is considered started. **By Gross and Net Speed**: (*Default*) Downtime begins/ends when both the gross and net speed have stopped/started. **By Gross Speed**: Downtime begins/ends when gross speed has stopped/started. See note. **By Net Speed**: Downtime begins/ends when net speed has stopped/started. **By Machine Speed**: Downtime begins/ends when the machine speed has stopped/started. This is from the device input Tag of ‘Machine Speed’ and is not a Gross or Net Speed. **By Operator**: Downtime begins when the operator manually stops the count when they press the Count On/Off button. Downtime ends when the operator presses the Count On/Off button to resume the count manually. Speed is not considered at all with this option. **By Count**: End downtime and enable net when operator enters a count. **Note:** If the machine is configured to count net items as containers (rolls or boxes) rather than copies, then only choose **By Gross Speed**. The net count will never have a significant speed like it would when counting individual items or length
Downtime end delay	Auto-Count will wait this many seconds before ending downtime using the method defined above.

Auto consume inputs	Select this option to auto load input materials. When the current input material reaches quantity, Auto-Count will end it and load the next input material in the queue. (This option has no effect if splice signals are defined.)
Require all materials	When selected, Auto-Count will require you to load material on all active infeeds.
Use recipe item factor	Select this option to use the consumption ratio value sent with the MIS job parameters to consume materials.
Use resin materials	When selected, resin type materials will be sent down to this Auto-Count machine. Do not select this option if this machine does not consume resin materials, as it would send unnecessary material messages through Connector.
Reset gross encoder on input change	When enabled, the encoder on the gross point will be reset when the operator changes the input material. This is necessary for workflows which involve rewinder machines where once a roll is complete the material is run backwards. Once a roll is complete and a tag is printed, the encoder will reset and not count 'negative' footage during the rewind process when the new material is loaded.
Downtime input timeout	The number of seconds the downtime operation code is valid after it is detected by a downtime input. If the machine does not stop within this number of seconds, then the operation code will not be used. To set up a downtime input, go to DMI Devices.
Waste Block Timeout	Waste is grouped into blocks based on the waste block timeout value set here. A waste block starts when new waste occurs during the run. It ends when the number of seconds, set here, has elapsed and no new waste has been added. For example, if this value is set to 90 seconds, the operator must let 90 seconds elapse without adding additional waste before Auto-Count creates a waste block.
Run Queue maximum size	The number of runs which can be sent to the Auto-Count and displayed in the Run Queue. Default value is 1000. Typically, users would adjust this value lower to maximize database processing speed.
Alert Timeout	The number of seconds that must elapse before Auto-Count 4D automatically clears an alert from the user interface if the operator does not manually clear it first. Auto-Count will display the alert again if the conditions for the alert still exist after the timeout seconds have elapsed.
Whole item percentage	When calculating an item count from a length value, if the calculated length is less than this percentage, then Auto-Count will not consider it a whole item and will not include it in the item count. For example, using 90%, if the last label produced has a length that is less than 90% of the item length, then Auto-Count won't add it to the item count. In this example we're using 78.74 labels per meter as the item length and 90% as the Whole item percentage. 78.74 x 2m = 157.48 or 157 labels 78.74 x 3m = 236.22 or 236 labels 78.74 x 4m = 314.96 or 315 labels (Note: 96% is considered a whole label)
Maximum sensor delta	Sensor counter jumps larger than this value will be ignored. Warning! If this value is set too low your counts will not be accurate. We suggest you use the default.
Short Stop Behavior	**Immediate**: When the machine stops during production this option goes into unidentified stop immediately. If the machine starts before the Stop Seconds have elapsed, then Auto-Count redefines the unidentified stop as the previous production code. You may need to merge consecutive productive opcode in the production log. If the stop lasts longer than Stop Seconds, then the operator is asked to pick a stop code. With this option the short stop time is included in the overall production time in reports. **After Delay**: When the machine stops during production this option does not change the operation code until Stop Seconds have elapsed. If the machine starts before the delay expires, then nothing has happened so nothing needs to be redefined. If the stop lasts longer than Stop Seconds, then the machine will switch into unassociated stop and the user is asked to pick a stop code as soon as the delay expires. With this option the short stop time is included in the overall production time in reports. **Short Stop Code**: If the machine starts before the delay expires the stop is left as this code. If the stop lasts longer than Stop Seconds the operation code is redefined as an unassociated stop and the operator is asked to pick a stop code. If you use this option, then short stop time will be included in down time in reports. **Note** If Stop Seconds is 0 then all options would act in the same way and any stop would create an unidentified stop code.

Disable production data upload to the MIS/ERP	(This option is typically used in very specific environments.) When you select this option, all transactions and run queue status messages will only be saved to the Plant Manager database; they will not be sent up to your MIS/ERP database. Status messages are still sent.
Disable material data upload to the MIS/ERP	(This option is typically used in very specific environments.) When you select this option, all material usage transactions will only be saved to the Plant Manager database; they will not be sent up to your MIS/ERP database.
Enable Simulator	By default, Auto-Count machines will not be able to access the machine simulator unless this option is enabled. This avoids common issues when moving from a test to live environment.
Add Runs Url	This is used for the Add Runs feature. If your Auto-Count 4D is not installed on the same computer as the Plant Manager Browser, then you must enter the URL to the Plant Manager Browser server using the link below where [*server*] is the name of the server machine where you installed Plant Manager Browser. http://[*server*]/PlantManager/PWCScript.aspx?dir=PlantManager&script=AddRuns.xml&display=embed

Defining Gross and Net Units of Measure

The counting units set at the Machine Configuration level are used when running a job. Gross count is the count of 'things' or material going into the machine. Net count is the count of 'things' or product coming out of the machine. Machines can have separate Gross and Net counters or the net can be calculated from the gross using the job parameters. How you set up the count units here is very specific to your machine and workflows. For Auto-Count to count properly, you must set up the count units using these guidelines.

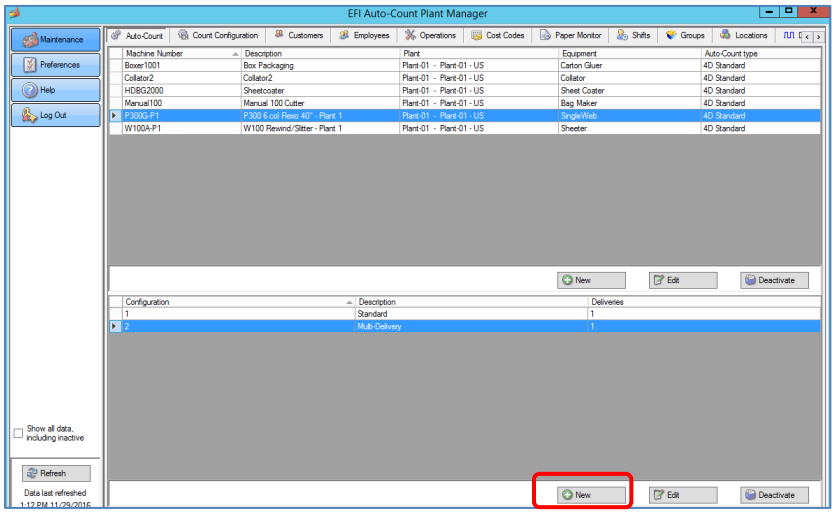
- In any scenario where the gross or net count is tied to a hardware sensor, the gross or net unit selected must be compatible with how the sensor is set up to count.
- On single count machines where the net is calculated from the gross, the net unit used will depend on the type of machine process involved. If the output from the machine is a multiple of gross, then "Pieces" should be selected as the net unit. In this case, the gross count will have a number up applied to it to calculate the net and gross count should be either "Sheets" or "Impressions" UOM. Do not set all three UOMs to pieces, otherwise the counts will not calculate properly in this scenario. An example of this would be a machine that consumes printed impressions but cuts these into individual output pieces.
- Finally, the MIS must be configured to send job quantities in the net unit of the machine. This is *essential* as 4D will signal the run as complete when the net count reaches the requested quantity to produce. Some systems, like Radius, send an additional Unit of Measure attribute down with the job. This should also match the net unit of the machine.

Machine Configuration

Warning For Packing Station type AC4D machines, only create one machine configuration.

To set up machine configuration(s)

1. With a machine selected, click **New** under the **Configuration** area to open the Define Configuration window.



2. Enter the configuration parameters. (Monarch Foundation users, enter information which matches a configuration in your Foundation system for this machine.) Then click **Save** and **Close**.

Field	Description
Configuration	Enter a numeric or character value. Subsequent configurations must be unique. For example, if your machine number is 1500, the first configuration number could be 1501 and the second configuration could be 1502.
Description	Enter a descriptive name for the configuration.
	Machine Configuration Count Unit Notes:

	• The values you set here become the values specific to this configuration. When you load a run in Auto-Count 4D, the count units here at the machine configuration level will be used.
Gross Count Unit	Gross count unit of measure displayed on screen. This must be set to sheets per impression only for jobs run on sheetfed type machines. **Note**: If your machine type is Die Cutter, then you must select Impressions.
Net Count Unit	Net count unit of measure displayed on screen. Some MIS systems like Radius send an additional Unit of Measure attribute with the job information. This value should match the Net Count Unit. **Note**: If your machine type is Die Cutter, then you must select Pieces.
Secondary Net Count Unit	A second net count unit of measure. The user can toggle between the Net Count and Secondary Net Count. For example, if you want to see output in both Feet and Label. The secondary net count only affects the display and does not affect the way 4D counts.
Read only units: Primary Net / Secondary Net	Select one or both checkboxes to stop users from changing the output size on the Output window in 4D. You can choose either primary net, secondary net or both. If you choose both, then users will not be able to change units on outputs at all.
Infeed/Outfeed Types	(4D) Select the type of infeed/outfeed this machine will use – rolls or pallets.
Disable net count points	With this option enabled, Auto-Count will ignore any net count points defined for the machine when this configuration is used for a run.
Use Machine Reports	Select this option if you only want to use the reports defined at the machine level. When this is disabled, Auto-Count will only use the reports defined at the machine configuration level
Hide Item Detail	This option hides the item quantity values on the Select job/Job details window if the UOM is length. Depending on your workflow, this value could be confusing to operators, so use this option to simply not display the information for operators.
Maximum Packing Level	If you set up the Packing Station module, then select the maximum packing level this Auto-Count workstation configuration will create. Any levels beyond this will be handled at a Packing Station. For example, Level 1 means that a roll or pallet will be produced at this AC4D (container level 1) and all subsequent packing operations will be completed at a Packing Station. **Notes**: If this field is inactive, then you have not set up a Packing Station 4D machine yet. Any outputs packed at the AC4D will not be displayed in Packing Station.
Allow Packing Size Updates	Select the output/container level(s) the operator may edit. For example, allow the operator to edit only the roll size (container 1) but not the number of rolls in a box (container 2) and beyond.
Select Reports	Select the default reports, like job tickets, to be used during production. You must also select which printer you want to use for each report. **Note**: If you do not define reports at the machine configuration and you do not select this option, then Auto-Count will not use any reports.
Work Center	(*Monarch integrations only*) Select the Monarch Foundation work center.
Machine start speed	Speed at which the machine is no longer considered to be stopped. This is used to determine if a machine is actually running. For example, if set to 3000, if the machine drops to a speed below that, Plant Manager would no longer consider this machine to be running.
Stop seconds	Number of seconds the machine must be stopped before it is considered a stop. For example, if this is set to 60 seconds, the machine can stop and start again within 60 seconds and the stop will not be recorded unless it was manually identified with a code by the operator.
Scaling factor	This factor is used for scaling count; the default is 1. This factor depends on the sensor placement.

Makeready 2 over threshold	The number of impressions the Net Count must reach to end Makeready 2 and go into Production. If your **Run Mode** is set to **Auto** in Auto-Count 3000 (or if you are using Auto-Count 1000), Auto-Count uses this value to determine when to end Makeready 2.
Saving threshold	The amount the net count must increase before Auto-Count changes the machine's state from **Stop** or **Restart** back to **Run/Production**.
Job Near Done Units	The value you wish to use to count the Job Near Done Threshold value.
Job Near Done Threshold	The value at which Auto-Count will warn you (by an output) the job is almost complete.
Maximum Infeeds	Number of infeeds this machine configuration can have. This value can only be set as high as your Maximum Webs value at the Machine level.
Maximum Outfeeds	Number of outfeeds this machine configuration can have. This value can only be set as high as your Maximum Deliveries value at the Machine level.
Cylinder circumference	The size of the cylinder (typically for Web and Flexo machines).
Use Cylinder circumference	Select this option to use the cylinder circumference to measure material being consumed (input consumption) rather than the default measure of form length.
Count Configuration	If you have set up a Count Configuration for use with this machine, then select it here. This drop-down only displays the count configurations with the same number of deliveries as your max delivery setting. See "Count Configuration" for more details.
Tandem slave device	(*3000 only*) Another machine that would run in tandem as a slave to the master machine.
Default Objectives	These values are used as the default values when you create a new job. They can always be edited directly within the job for more precise data collection. **Makeready time**: The machine operator's targeted maximum number of minutes to complete makeready operations. **Rate**: The machine operator's targeted run rate. **Waste percent**: The machine operator's targeted maximum waste percentage.
Paper Monitor	(*3000 only)* If using Paper Monitor, select how many and which Paper Monitors you want to use with this machine configuration. **Tip:** You must first set up your Paper Monitors in **Maintenance > Paper Monitor**.
Operation codes	These operation codes represent a specific state the machine is in while the job is in production. They are used to explain reasons for downtime and other states of the machine. Select operation codes from the boxes. **Clean Up** If you set the **Clean Up** code to **Unassigned Time**, users will be prompted to enter a stop code when the run is complete. (This assumes your Unassociated Stop code is also set to **Unassociated Stop** and not **Clean Up** on the Machine configuration level.)
Select Scales	(4D Advanced only) Select the scale(s) you will use with this machine. You must first set up scales in the DMI Devices area before you can select them here.
Scale Activation Delay	The number of seconds between the machine entering production and any waste weighing scale being activated. (If the scale is not already active during makeready.) The default is 60 seconds. This allows the operator to clear the makeready waste already in the bin when production begins.
Hide Quarantine Button	When enabled, AC4D will not display the Quarantine button on the outputs screen.

Counting	
Use Machine Count Adjustments	When selected, the Count options set in Define Machine > Production screen will be used. When this is disabled, Auto-Count will only use the counts defined here at the machine configuration level when this configuration is sed on a job.
Allow counting adjustment	These options allow the operator to adjust the number of items per block that are counted by a count sensor. You can choose to adjust the count on the net count, gross count, or both. For example, if you are using a net sensor and want to count Net per Block, then on the main screen you would set the number of envelopes (net per) that are within one box (block) being produced on that machine.
Net Per Block options	**Net Per Block set by MIS** If using Net Per Block, then this feature allows the MIS to automatically use the inner most container size as the Net Per Block value. Users can still manually update the Net Per Block value by changing the container size on the Output window. **Scale Net Pet Block by inner container** Allows the user to enter the Net Per Block value as the number of the inner most container, while still calculating the total quantity within those containers. For example, if the net sensor counts number of boxes which contain rolls and the user enters number of rolls in a box (Net Per Block), then Auto-Count will calculate the total length in the box.
Maximum block size	This value is the percentage of the run qty and is used as the maximum limit when entering Net/Gross Per Block. When users enter a value larger than this for the Net/Gross Per Block, Auto-Count will ask if it is correct. This option helps prevent incorrectly entered values. The default is 100%, the entire run qty. Enter '0' to turn off this option. We recommend a lower value like 10% if you want to use this option.

DMI Devices

Once you have set up your Auto-Count hardware you must select a device and configure the inputs and outputs for the device. Outputs are electrical signals from the DMI kit to your machinery. Please see the section "Obtain DMI Input Signals" above for descriptions of signal types.

Warning We do not recommend that you use a live device that is already configured with the simulator for testing purposes. If the simulator is enabled on a live system, then the counts and data collected will be inserted into the live database and it will be impossible to tell the difference between data generated by the hardware and simulator.

Device Types

The following is a list of device types and communication protocols which you can set up.

Scale – A scale. (Auto-Count 4D can only use slab scales for weighing waste on inputs or scales on each outfeed.) See the section below, "Setting up Scales".

Fiery – Fiery controller (RIP) device. See *Support Note – Fiery Integration*.

JMF - A JMF (Job Message Format) subscription to a JDF device. Used for reporting the state of the device and the JDF job.

Keyence Barcode Reader – This is a high-speed barcode reader used in automated environments. See *Support Note -Keyence Barcode Reader*.

Micrologix 1100 - Micrologix 1100 PLC. *Support Note – Mircrologix PLC Integration Guide.*

Modbus TCP - Modbus provider to support both PLCs (Schneider / Allen Bradley). *Support Note- Setting Up Modbus TCP Device*

Moxa ioLogik E1200 Series– Moxa E1200 series PLCs

Nozomi – A Nozomi machine. See the *Plant Manager Nozomi Setup Guide*.

OPC - Connection to an OPC (Open Platform Communication) server. Used by many PLC manufactures and QTMS.

DMI kit - Traditional Opto22 hardware provided by ePS.

HP Print Event – HP Print Event protocol for HP digital presses. Please see the *Support Note – Setting Up HP Print Event Device*.

HP T Press - HP Print Event protocol for HP T digital presses. Please see the *Support Note – Setting Up HP Print Event Device*.

HP Pagewide - HP Print Event protocol for HP Pagewide digital presses. Please see the *Support Note – Setting Up HP Print Event Device*.

Scale Mettler -TCP Scale indicator that uses the Mettler Toledo scale board TCP protocol.

Scale SMA-TCP – Scale indicator that uses the Scale Manufacturers Association TCP protocol. You must manually enter all information for this device (IP Address, bin weights, Port). Auto-Count uses the following SMA commands, Read Scale, Tare Scale, and Zero Scale.

Serial Ink Device – Serial ink devices used to track ink consumption. *Support Note – Set up Serial Ink Device.*

SNMP - A listener to events using Simple Network Management Protocol (SNMP), used by many digital devices. Supports Canon SNMP devices. See *Support Note – Set up SNMP Device.*

WCF - A web service interface using Windows Communication Foundation (WFC).

Simulator – Used for testing purposes to simulate a device.

Input Types

Counter – High speed counter input can be used to count machine cycles or scaled to count length, weight or volume.

DigIn – Digital Input that alternates between on and off states. Each state should last at least 500 milliseconds to be detected.

Latch – Input that latches when the signal turns on. This will detect momentary signals such as a button press.

Speed – Counter input that calculates speed in units per hour. This should always be scaled to units being counted. The speed will be calculated in units per hour but, if necessary, the Auto-Count will scale to units per minute. When a counter input is created a speed input is automatically created for that counter input. Usually, it isn't necessary to create speed inputs.

Operation – A Latch that detects a specific operation code when the input signal turns on.

Wasteinput – Assigns the operation code to waste blocks. There is only one waste input tag, but it can be used on multiple points on the rack.

Encoder – A type of cylindrical counter input that can detect both forward and backward movement.

Output Types

DigOut – Digital Output that turns on or off depending on the state of the tag.

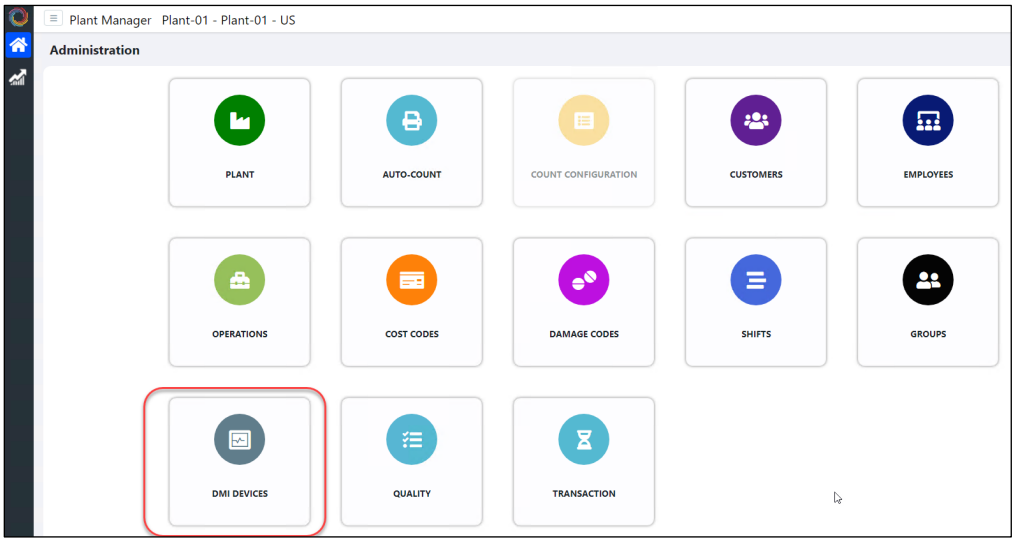
SquareWave – Output that flashes or turns off depending on the state of the tag.

Pulse - Output that pulses one or more times for a set period of time when the internal tag changes to true.

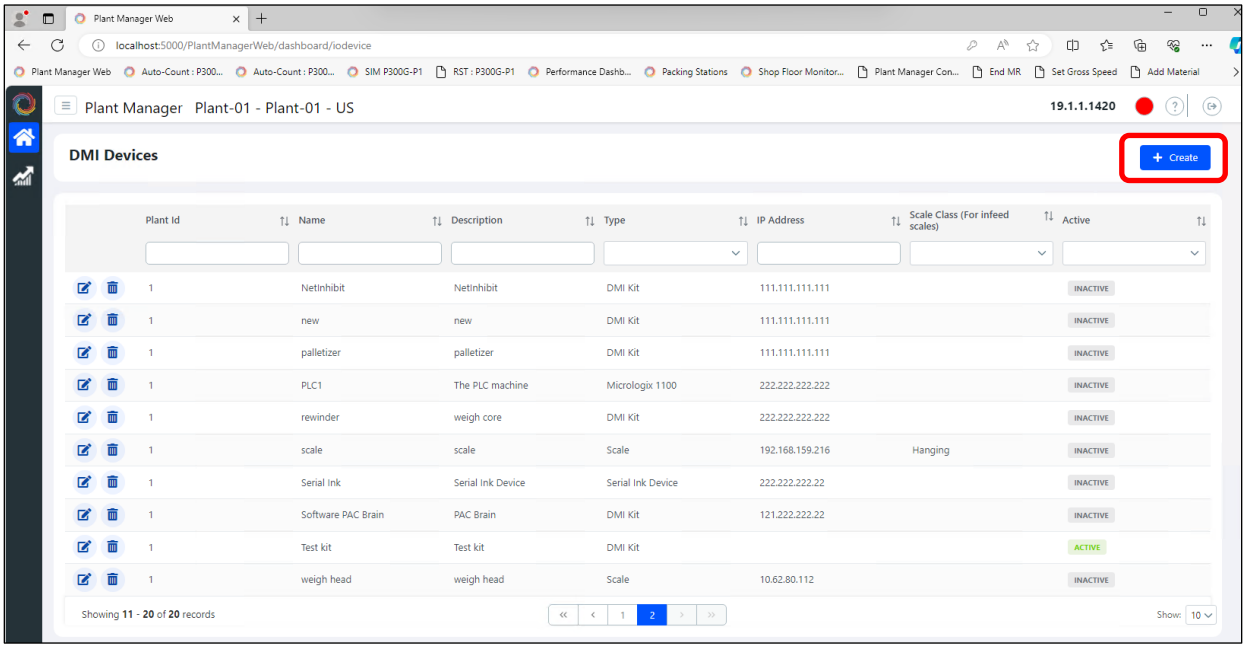
> **Warning** If you do not have full understanding of how to set up electrical inputs and outputs then please contact Support. You may need the assistance of an outside vendor to help you install your hardware and set it up. The input/output settings determine how your counts are calculated. Adjusting these without proper knowledge can significantly impact your results.

To set up DMI Devices

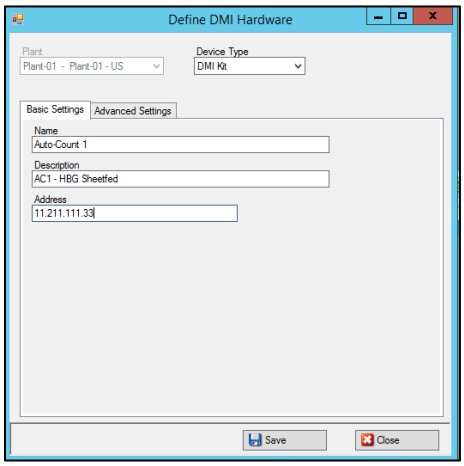
1. In Plant Manager select the **DMI Devices** tab.



2. Click **Create** to create a new device.



3. In the Define DMI Hardware window select a **Plant** and Device **Type**. Then enter a **Name**, **Description,** and the IP **Address** for this device.



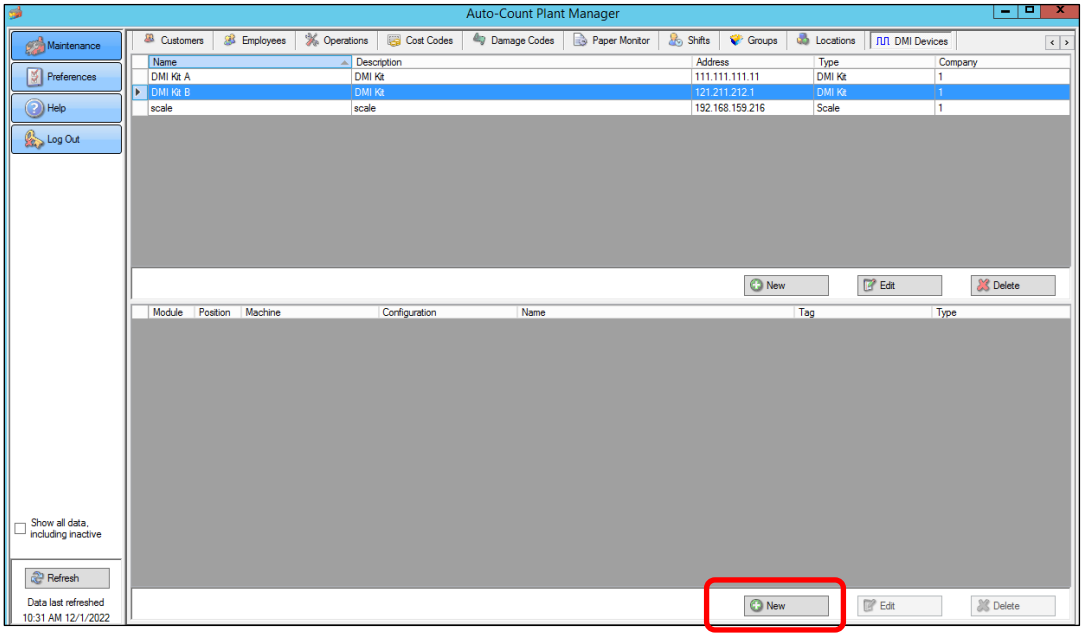
> **Note** We highly recommend that if you need to adjust the **Advanced Settings** values you first contact Support for guidance.

4. Click **Save**.

Once you have created a device, now you can define points for this device. Here you will define what type of point you are creating (input/output) and exactly which module and position the signal will use inside the device.

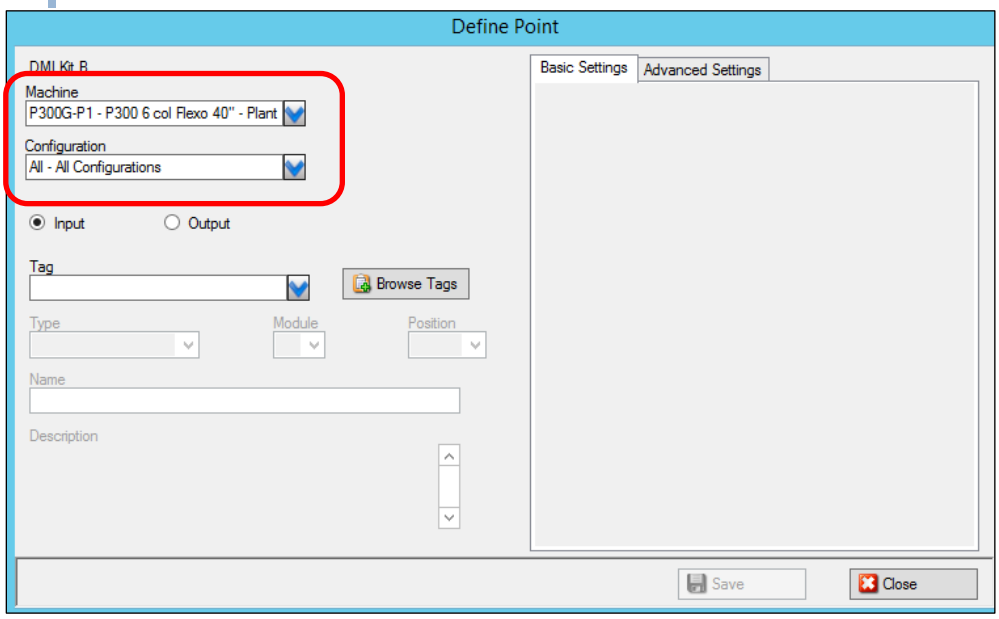
To define a point on a device

1. Select a device and then click **New** in the bottom half of the window to define a point.



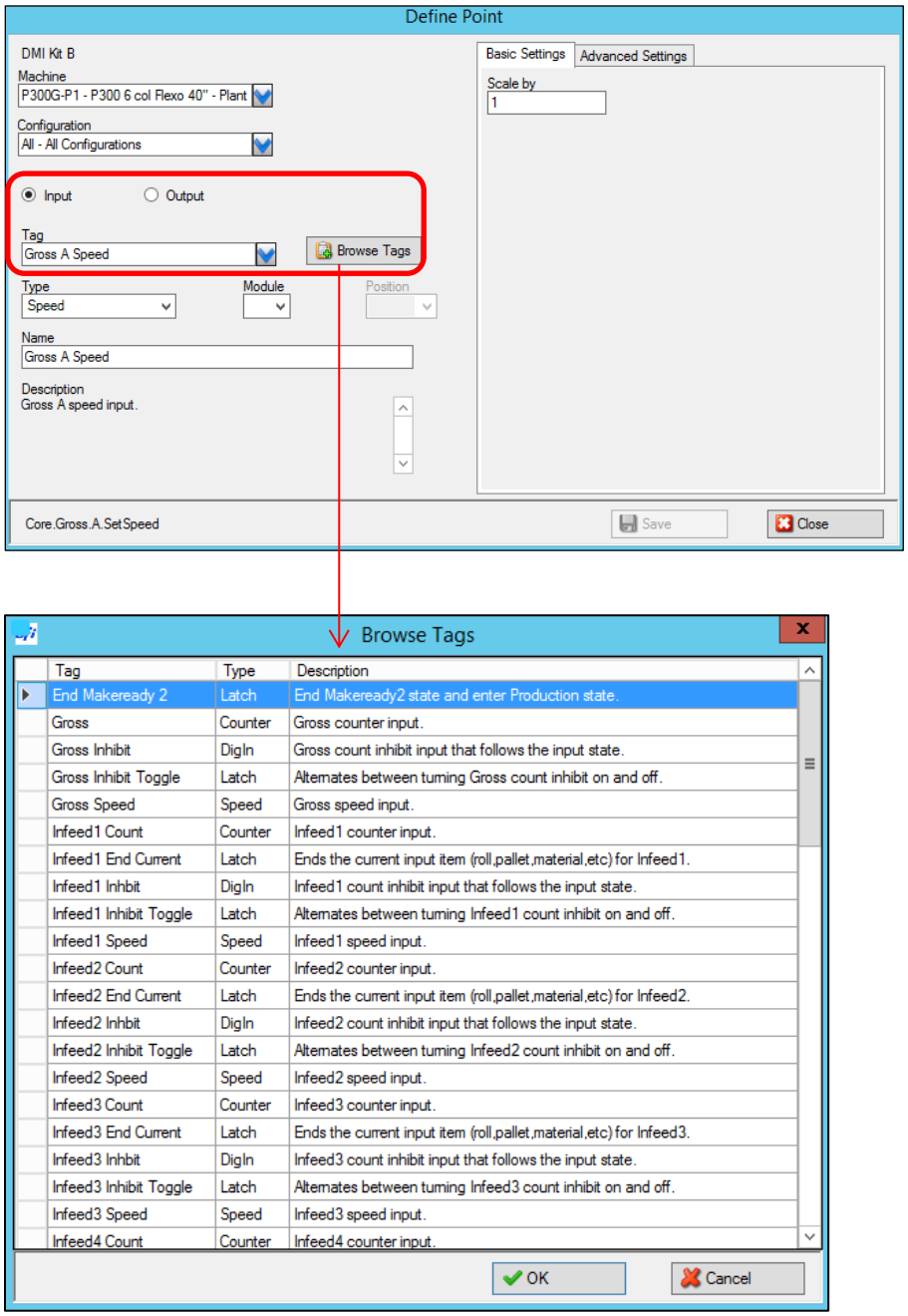
2. In the Define Point window select the **Machine** and Machine **Configuration** for which this point will be used.

> **Note** For Machine Configuration, select All to use this point when any machine configuration is used. If you only want to use this point for a specific workflow, then create a machine configuration for that workflow and choose that configuration here. For more information on Points by Configuration, please see the section “Points by Configuration “ below.



3. Select **Input** or **Output** type of signal. Then choose a **Tag**.

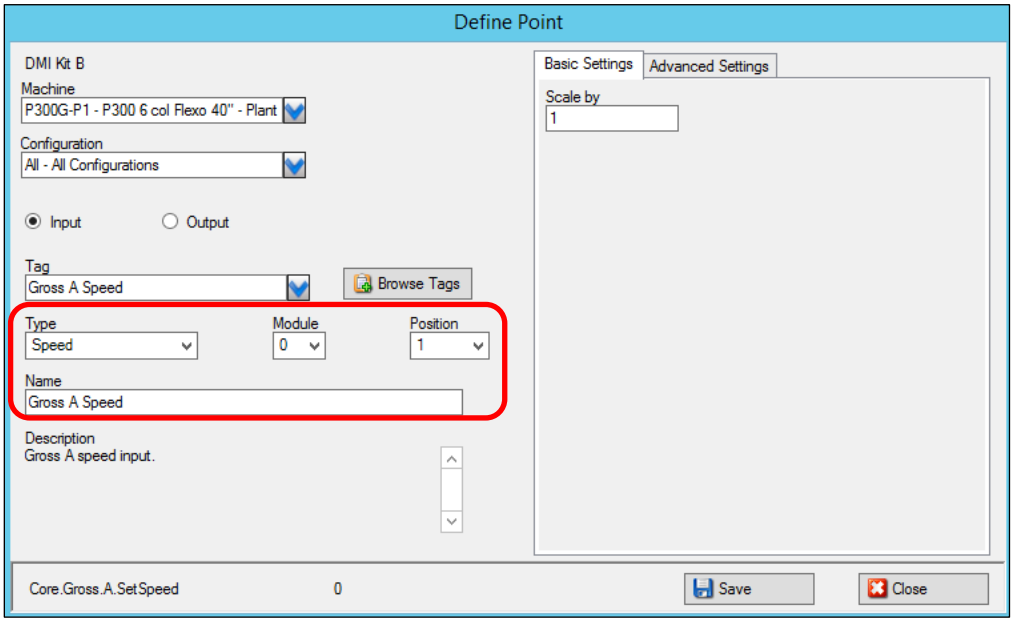
   The signal type you choose will determine what type of **Tag** is available. Input will display only signal types of Latch, Counter, DigIn, Speed, etc. While Output types are DigOut. Click **Browse Tags** for more detailed descriptions of the Tags.



4. Select a **Type** if the Tag can be more than one type of signal.

   Then select the **Module** and **Position** on that module that this signal will occupy within the device (typically the DMI Kit.)

   You may edit the **Name** of the Tag if necessary or accept the default.



5. Certain Tag types also contain other settings. If this is the case, then select **Basic Settings** and further customize the point. We highly recommend that if you need to adjust the **Advanced Settings** values you first contact Support for guidance. Otherwise, do not adjust these settings.

   Basic settings by Tag type:

Type	Description
Counter and Speed: Scale by	Used to scale the input to the required units. This might be scaling the input to count impressions, or pieces or meters. For example, if the input was pulsing once per 10 products produced, then set the scale by to 10. If it was pulsing 10 times per product, set to 0.1
Material	When using the Tag *MaterialCount*, enter the material name like Black Ink. This must match **exactly** the name in the Material table in the Plant Manager database.
DigIn: Reverse Logic	Used to reverse the logic of the input. For example, to have the tag go *true* when the input is off, then set reverse logic.
DigOut: Reverse Logic	Used to reverse the logic of the output. For example, to have the output turn on when the tag is *false*, then set reverse logic.
SquareWave: Reverse Logic Duration	Used to reverse the logic of the output. To have the output start flashing when the tag is *false*, set reverse logic. The duration in milliseconds of the on and off pulses. The default is 500 milliseconds. So, the output will turn on and off once a second.

Pulse:	
Reverse Logic	To have the output pulse when the tag is *false,* set reverse logic.
Duration	The duration of the pulse in milliseconds.
Pulse Count	The number of times to pulse. The default is 1 which means the output will turn on once for the duration set and then turn off. If the pulse count is greater than one, then the output will turn on and off for this many cycles.
Active Delay	Active delay that allows the point to ignore inputs for a period of time after the input changes state. For example, if the Active Delay is set to 7000 milliseconds, after the point receives an input it will ignore any other inputs for the next 7 seconds.
WasteInput	
Minimum/Maximum amount of waste	This is a range within which Auto-Count will assign the chosen operation code to waste blocks. For example, if you know that less than 5 pieces is not considered waste on this machine because of a blanket wash or other routine operation, you can set up the input to only start counting waste after that threshold has been met. The same idea goes for the maximum amount of waste. Use zero if you do not want to use a range of waste but need to count all waste amounts no matter how small or large they may be.

6. Click **Save**.

Setting up Manual Workflow for HP Devices

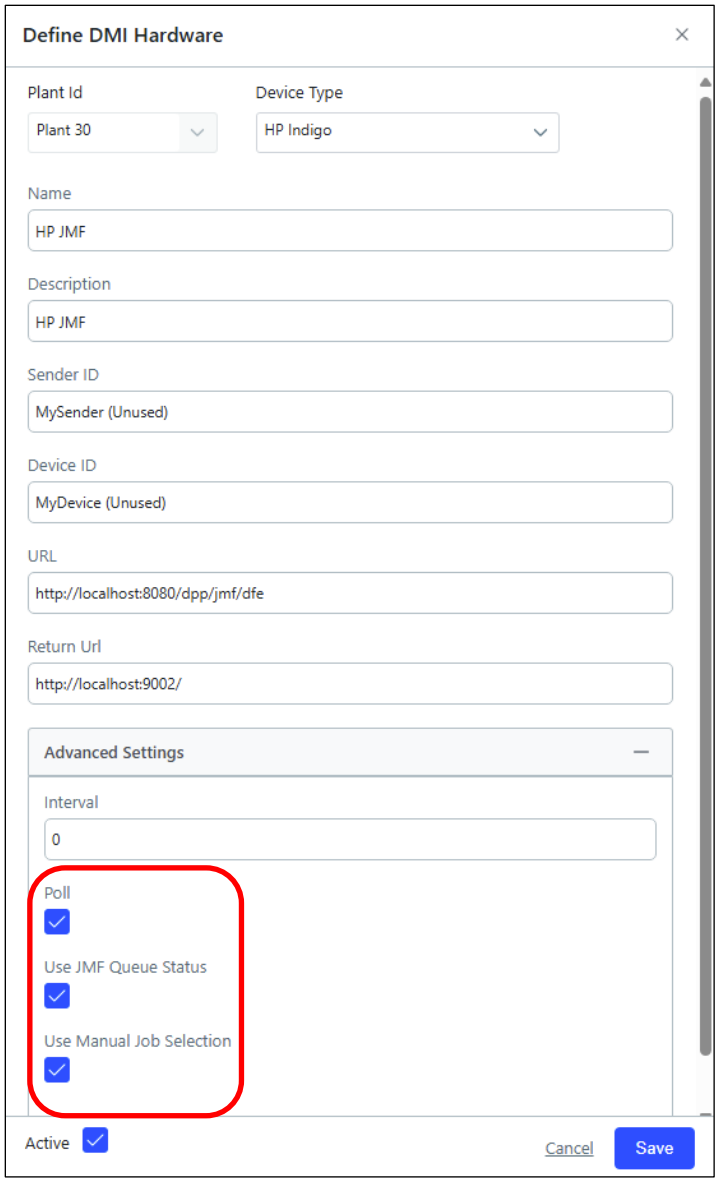
There is an option in the HP Indigo device type called **Use Manual Job Selection**. Enable this option if the HP device will not send a *JobPartID* value to Auto-Count *or* has a *JobPartID* that does not match those in Auto-Count to count correctly.This allows the operator to manually start jobs at the Auto-Count.

> **Note** If the HP device does send a *JobPartID* value to Auto-Count then disable this option. However, if you still want the operator to manually start jobs at the Auto-Count then enable this option regardless.

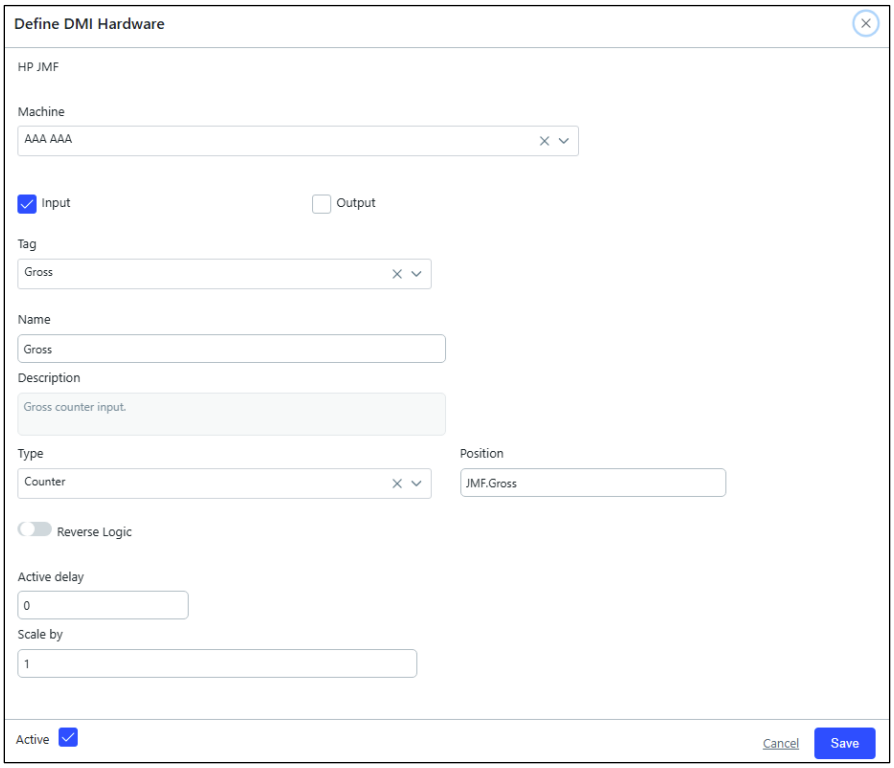
When enabled, the operator will use the Run List feature to line up the jobs in the proper order. They must match the jobs in the Auto-Count run queue with the jobs coming from the HP device. Then they will manually start the job at the Auto-Count and then start the job on the HP DFE. When this happens the Auto-Count receives counts from the HP and the operator runs the job as they normally would.

Set Up Manual Workflow for HP Devices

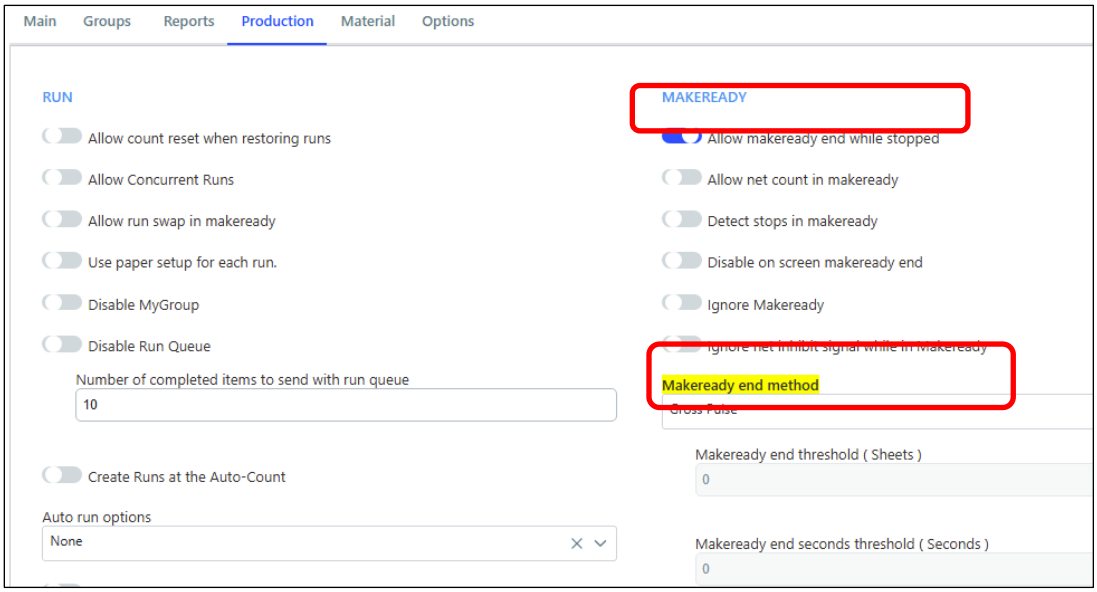
1. In Plant Manager, open DMI Devices and create an HP Indigo device Type. Then select the following:
   - Enable **Poll**
   - Enable **Use JMF Queue Status**
   - Enable **Use Manual Job Selection**



2. Define a single point as follows: <Tag Name="Gross" IntTag="Core.Gross.SetCount" ExtTag="JMF.Gross" Type="Counter" />

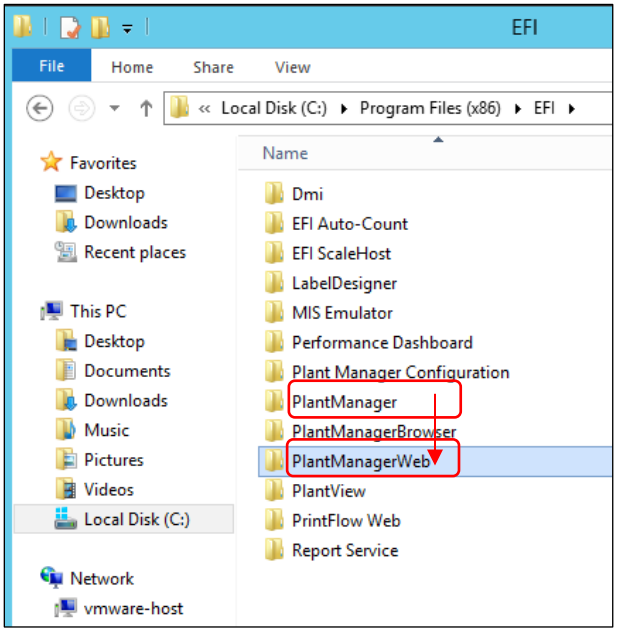


3. In your machine's **Production > Makeready** settings, enable **Allow makeready end while stopped** and set your Makeready end method to **Gross Pulse**.



Copy PlantManagerConfig.xml

For fresh installations (not upgrades) you now must copy the **PlantMangerConfig.xml** file from the Plant Manager directory to the PlantManagerWeb folder from within the ePS/EFI installation directory.



Copy **PlantManagerConfig.xml** from PlantManager to PlantManagerWeb

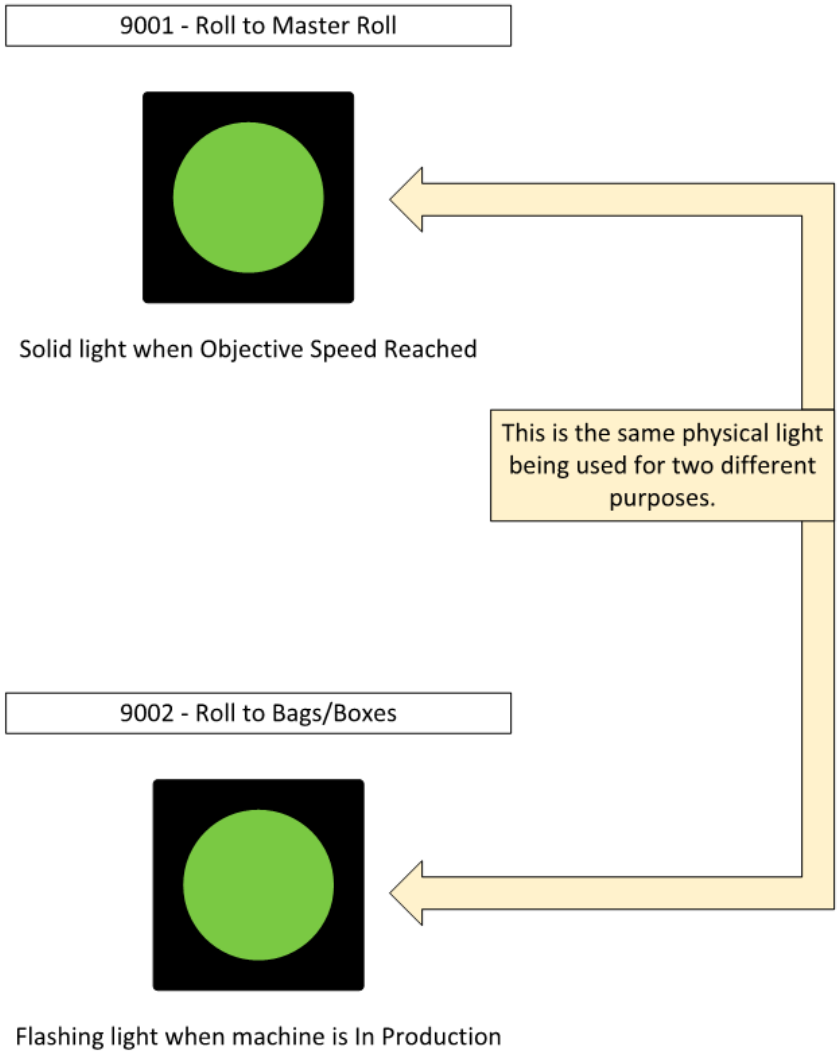
Note This step will become unnecessary in a future release once the installer performs this automatically.

Points by Configuration

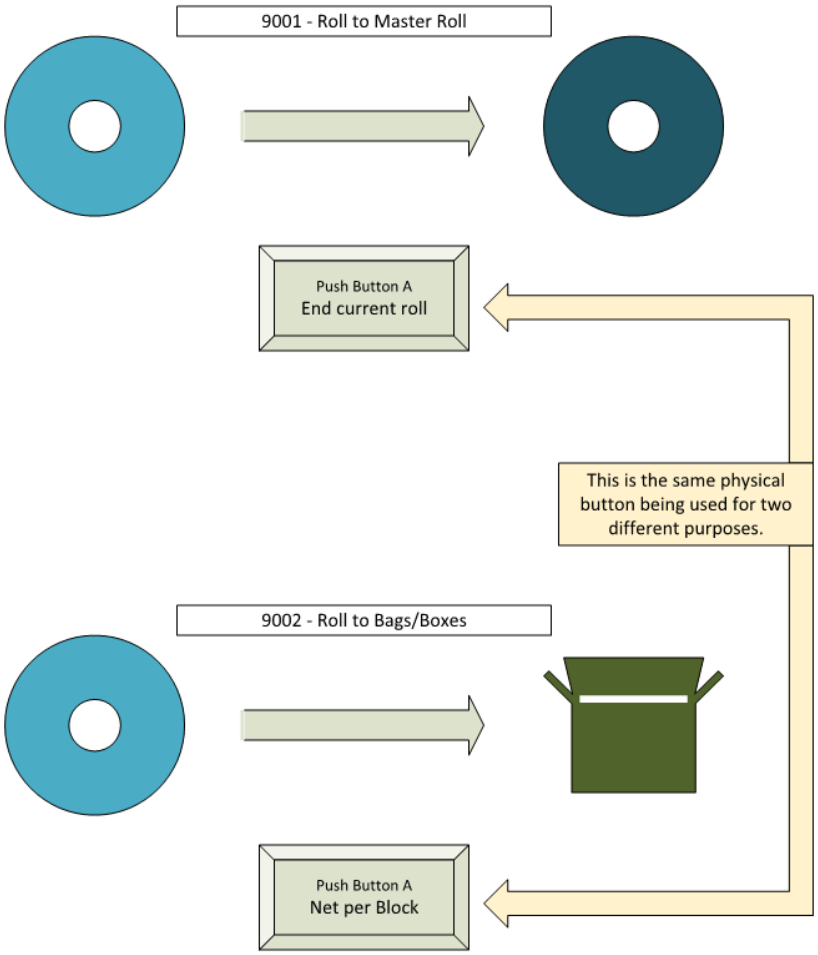
When setting up hardware, you can use machine configurations to define how to use the hardware wired to the machine. This is very useful because it allows you the flexibility to run different types of jobs on the same machine and use the same equipment in a different manner based on machine configurations.

Note The Points by Configuration feature is only available in the Auto-Count 4D (AC4D) Advanced machine license. These instructions also assume you have installed your hardware.

For example, you can use the same stack light for two different purposes. When running a job where you are creating labels in a roll-to-roll configuration, you can use the stack light to indicate when the objective rate (speed) is reached. But when running a job where the product is being put into boxes (roll-to-boxes) you want the light to indicate that the job is in Production and good count is being produced.



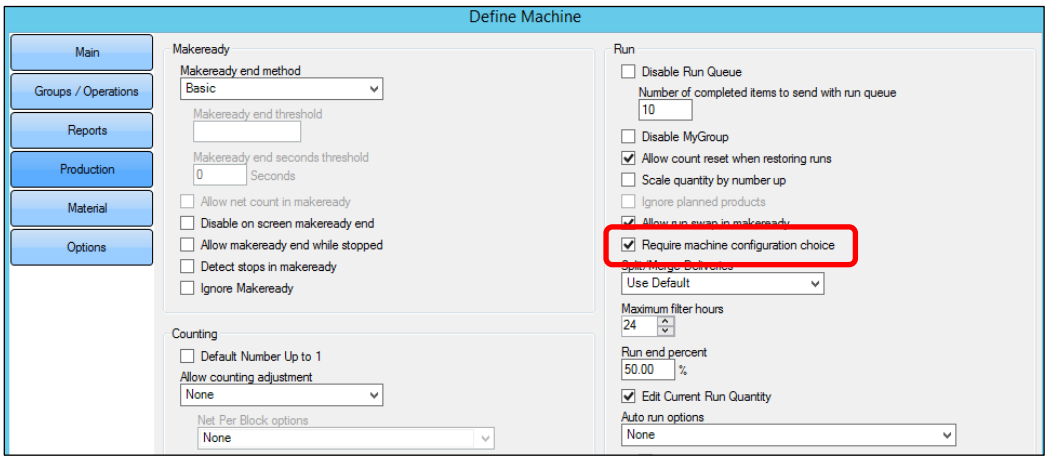
In this example, a push button is being used in two different ways based on the machine configuration. When in a roll to role configuration the operator uses the push button to end the current roll. When in a roll to bag/box configuration, the operator uses the button when they complete a box/bag using a Net Per Block counting method.



Set Up Points by Configuration

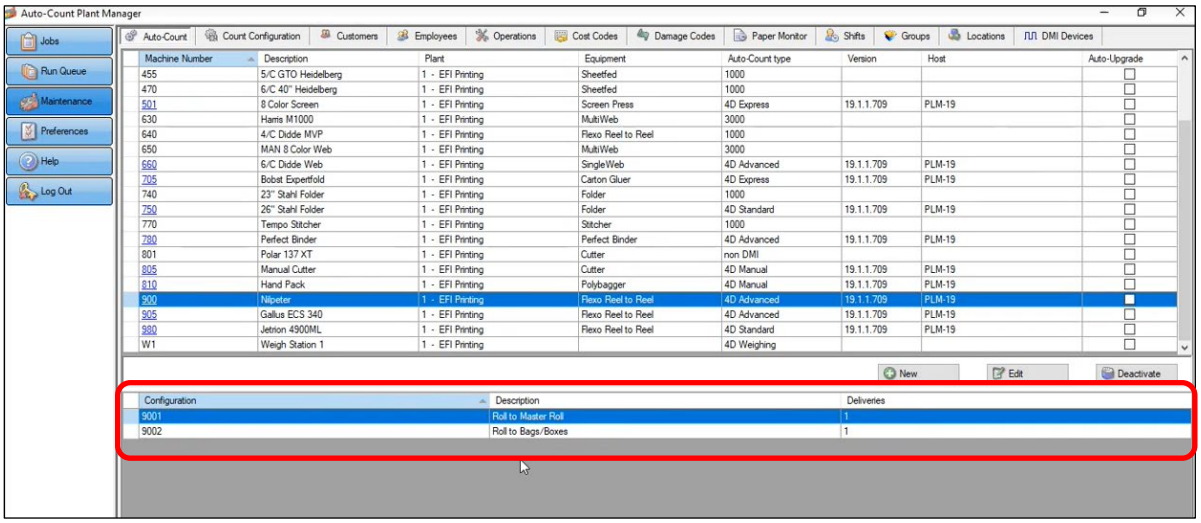
To set up this feature you must have more than one machine configuration for an Auto-Count 4D Advanced type of machine. We also recommend you enable the option **Require machine configuration choice** at the machine level to ensure operators must choose a machine configuration to reduce the chance that the wrong machine configuration is used for a job.

Plant Manager > Define Machine > Production

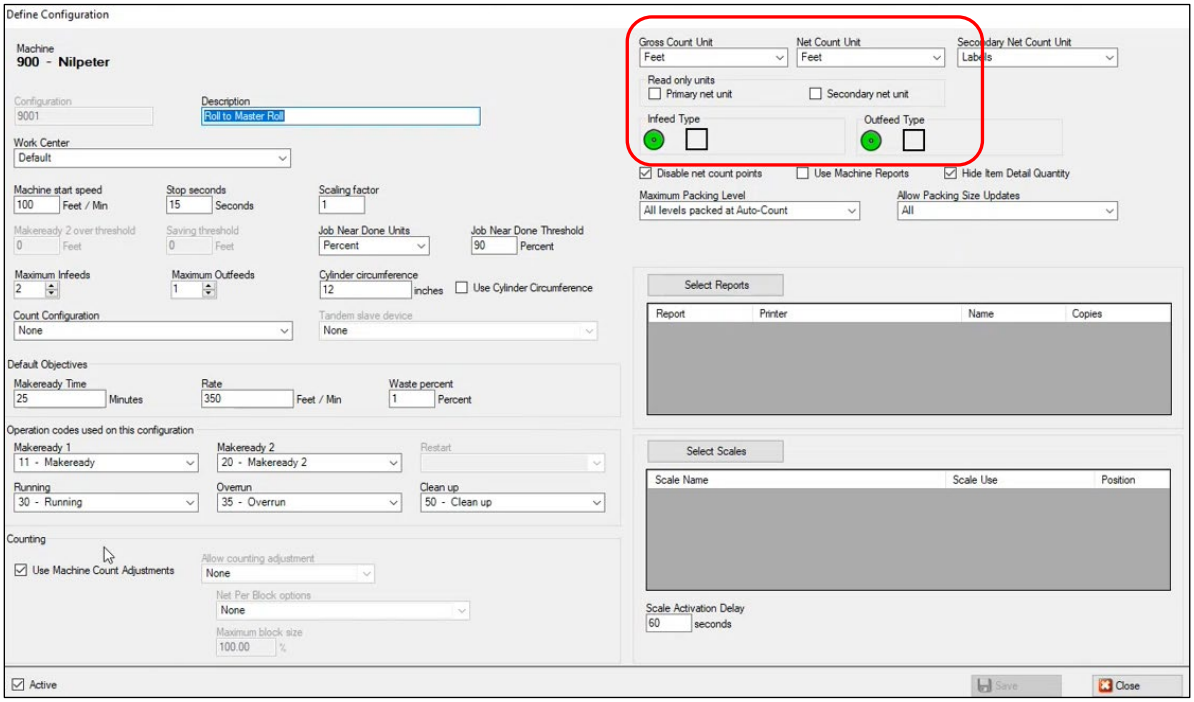


Set up Machine Configurations

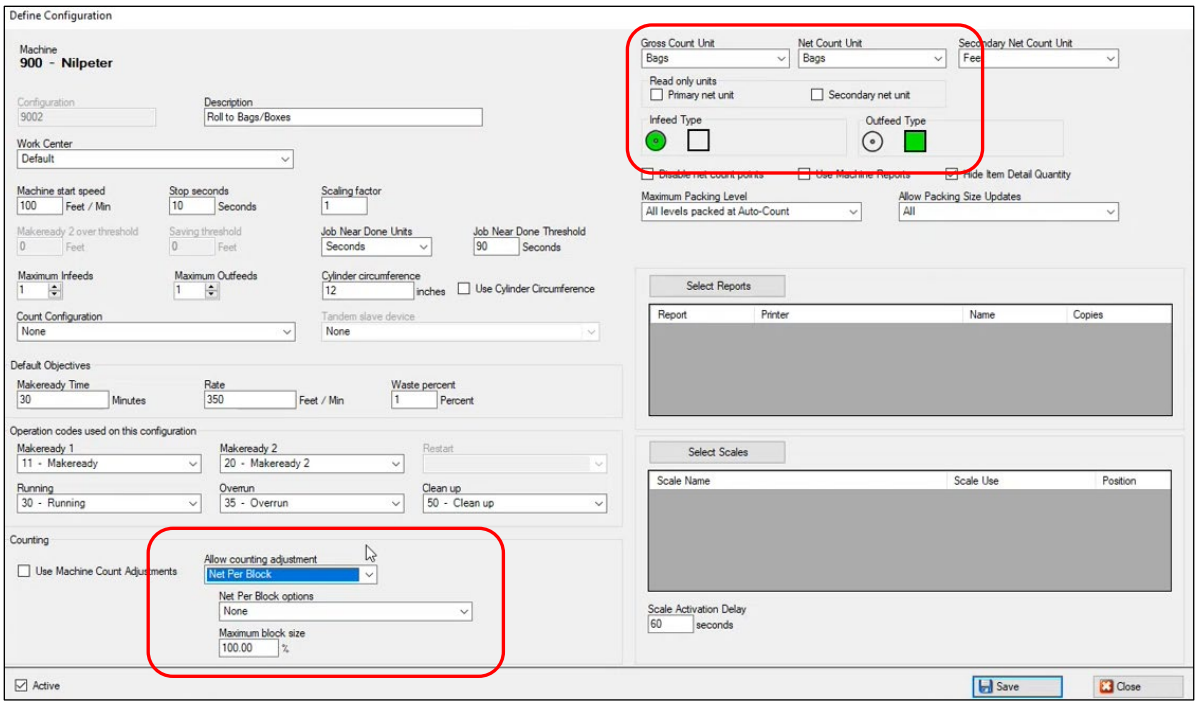
In this example we have two machine configurations for the 900-Nilpeter machine.



The 9001 machine configuration is set up as a Roll to Master Roll configuration. This is used for jobs that unwind and rewind rolls.



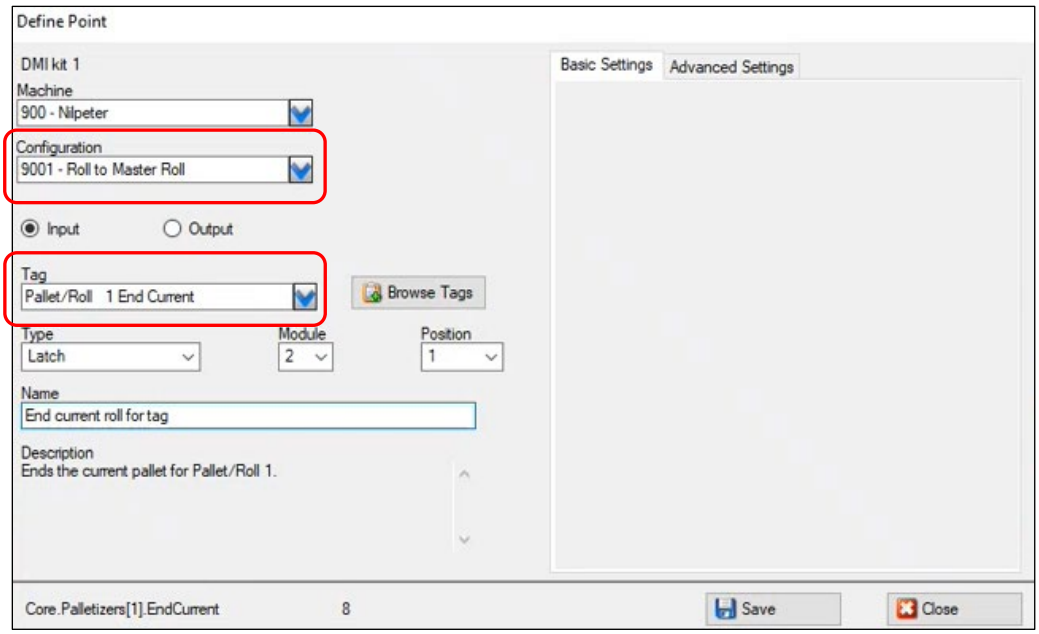
The 9002 machine configuration is set up as a Roll to Bags/Boxes configuration with Net Per Block counting. This is used when the machine is cutting material from the roll and then the material/product is put into bags or boxes. The operator uses the net per block to count what has been placed in the bag or box.



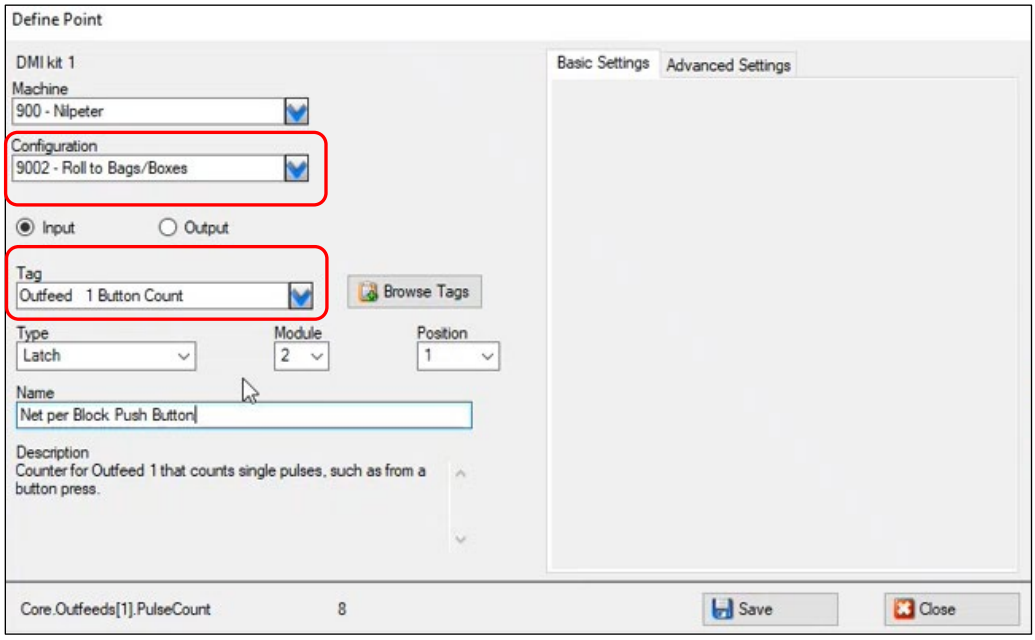
Set up DMI Devices

Once you confirm the machine configurations are properly set up, you can now configure your hardware to use a specific machine configuration. To do this, navigate to DMI Devices in Plant Manager.

In this example, we've added a push button which end rolls on the 900 Nilpeter machine when using the **9001 Roll to Master Roll machine configuration**. When this configuration is chosen at the Auto-Count 4D when a job is loaded, the push button will end the currently building roll and print a tag.



In this example, we've added the same button (Module=2 Position=1) as a Net per Block push button to the 900 Nilpeter machine on the **9002 Roll to Bags/Boxes machine configuration**. When this configuration is chosen, the push button will count a predefined number of product when pushed (Outfeed – Button Count).



Below is an example of a machine configuration set up in Plant Manager. Notice there are only three pieces of hardware wired to this machine – a counter sensor, a push button, and a stack light. But the button and light are used in different ways depending on the machine configuration chosen.

- one gross count signal used for all configurations
- one push button used for two different purposes (End current roll / Net per Block)
- one stack light used for two different purposes (In Production / Objective Rate Reached)

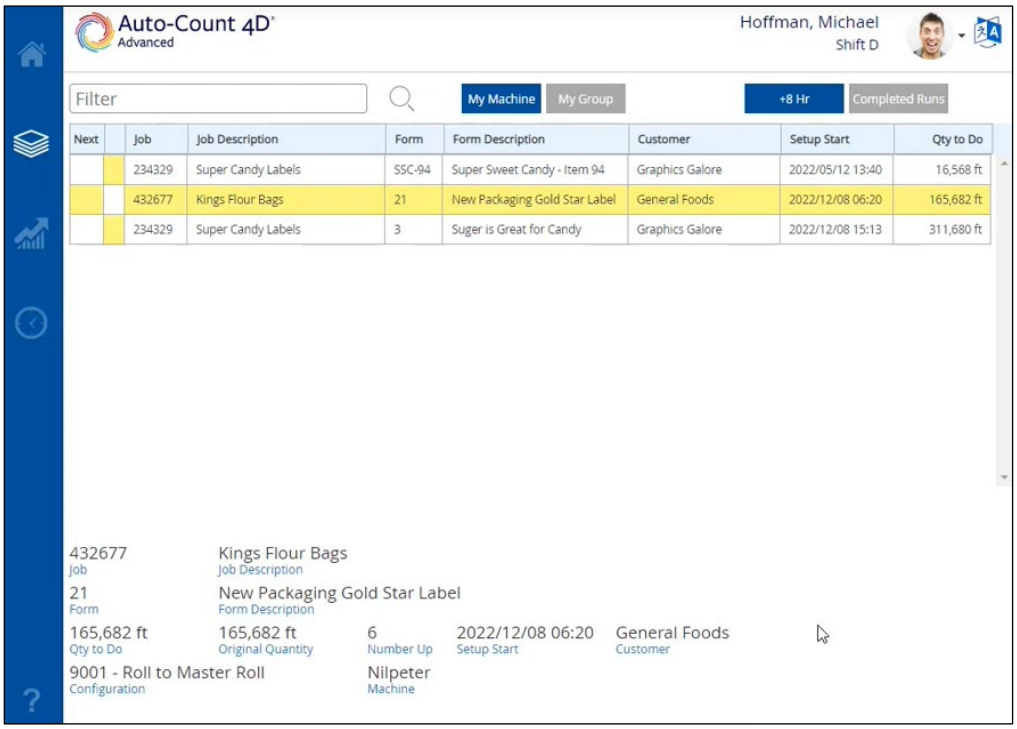
Module	Position	Machine	Configuration	Name	Tag	Type
0	1	900 - Nilpeter	All - All Configurations	Gross Count Signal	Gross	Counter
2	1	900 - Nilpeter	9001 - Roll to Roll	Push Button - End current roll for label	Pallet/Roll 1 End Current	Latch
2	1	900 - Nilpeter	9002 - Roll to Bags/Boxes	Push Button - Net per Block	Outfeed 1 Button Count	Latch
4	3	900 - Nilpeter	9002 - Roll to Bags/Boxes	Machine is In Production	In Production	SquareWave
4	3	900 - Nilpeter	9001 - Roll to Roll	Machines Objective Rate has been reached	Objective Rate Reached	DigOut

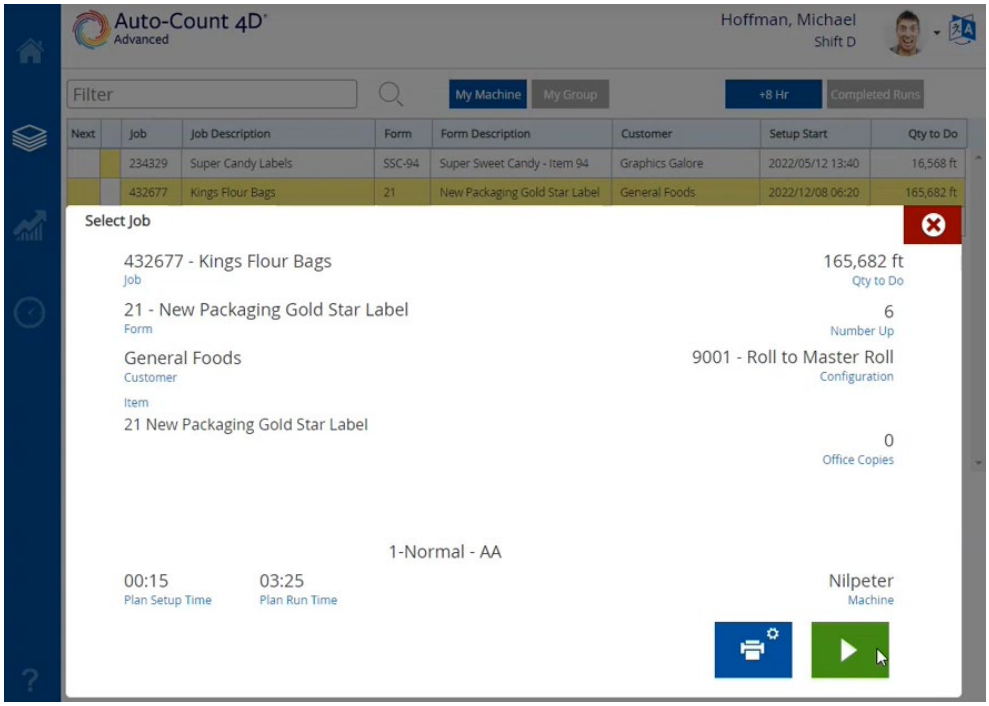
Using Points by Configuration

Once you have set up points by configuration, the operator simple chooses the correct configuration before starting the run. We recommend you enable the option **Require machine configuration choice** at the machine level to ensure operators must choose a machine configuration to reduce the chance that the wrong machine configuration is used for a job.

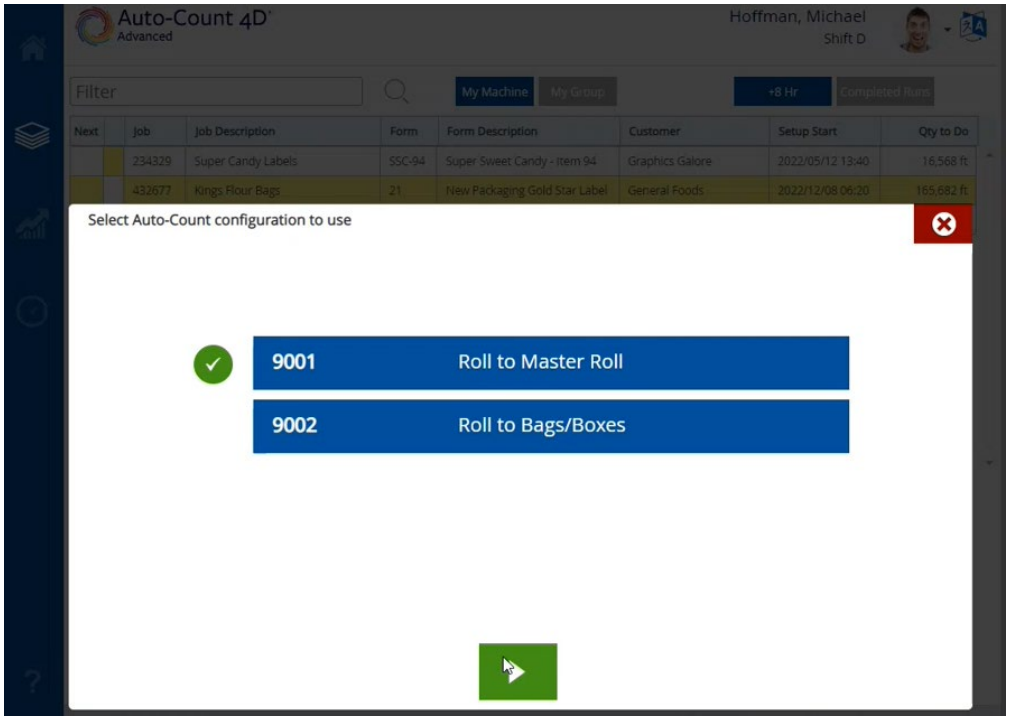
Example 1: Push Button = End Roll

The operator selects the job from the run queue. This job is a simple roll to roll configuration. We want to use the machine configuration that ends a roll and prints a tag.

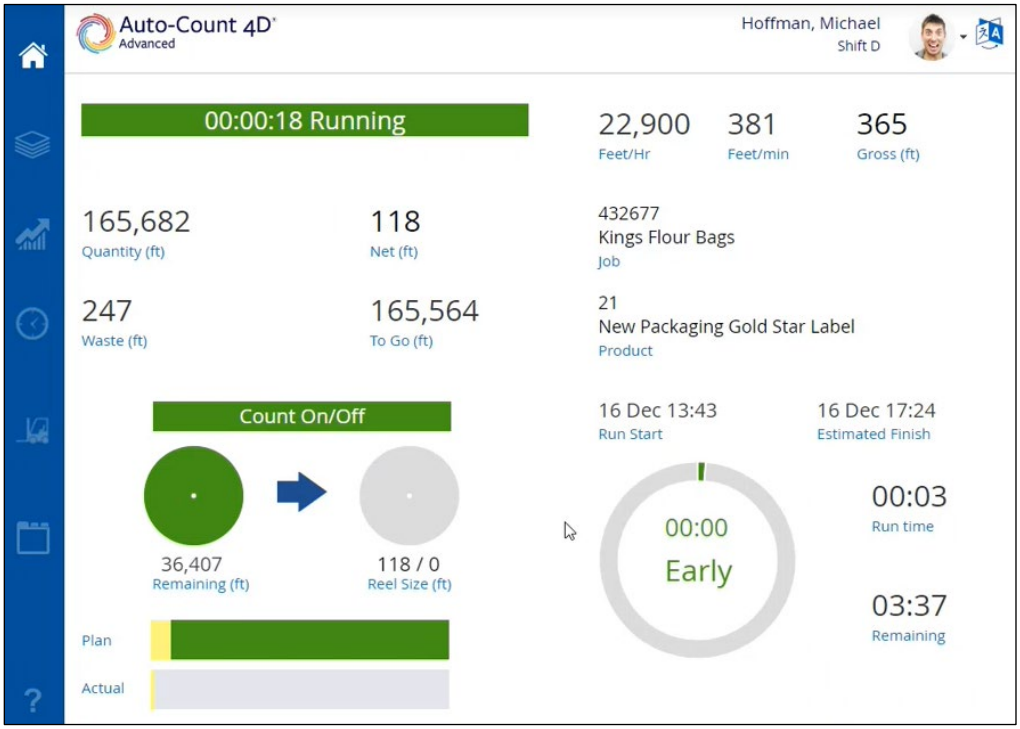




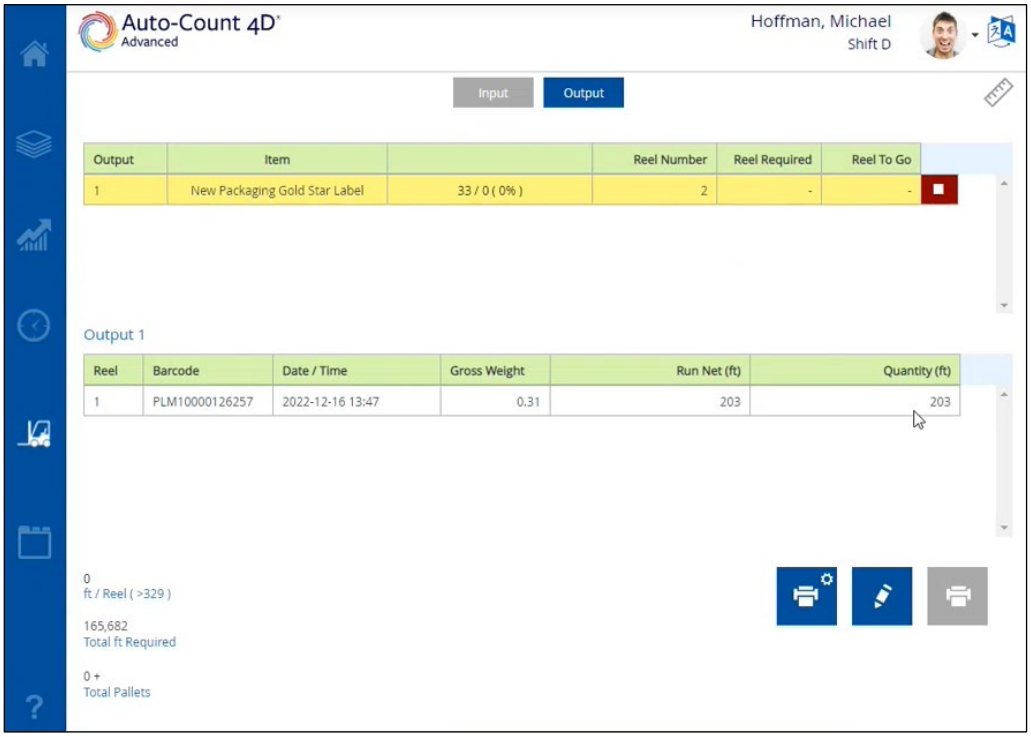
Once the operator chooses to load the job, they are prompted to select a machine configuration because we have that option enabled in Plant Manager. If this option is not enabled, then the machine configuration that was chosen for this job by the MIS system will be used. Operators can still manually change the machine configuration even if they are not prompted to pick one.



Once the job is running and goes into production, the operator will press the button to end the roll and create an output.

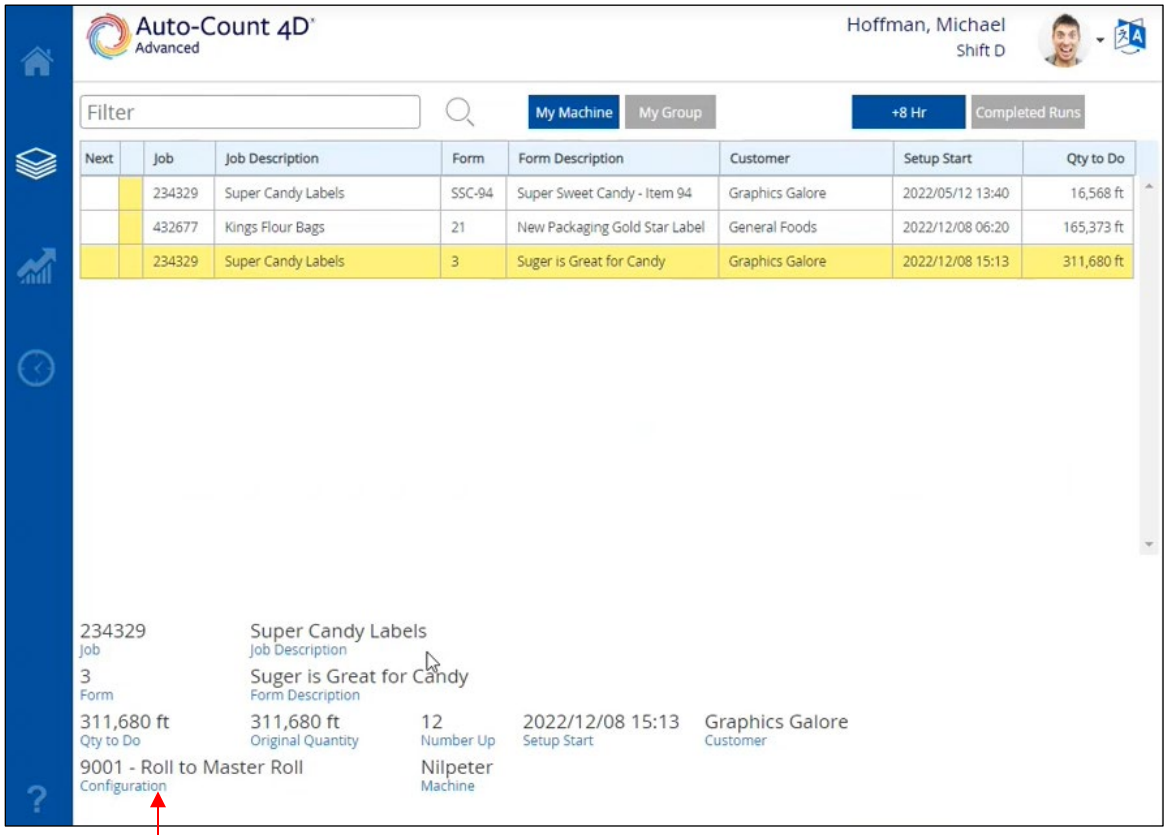


In this example, we've pressed the button to end the first roll which you can see on the Materials > Output screen.

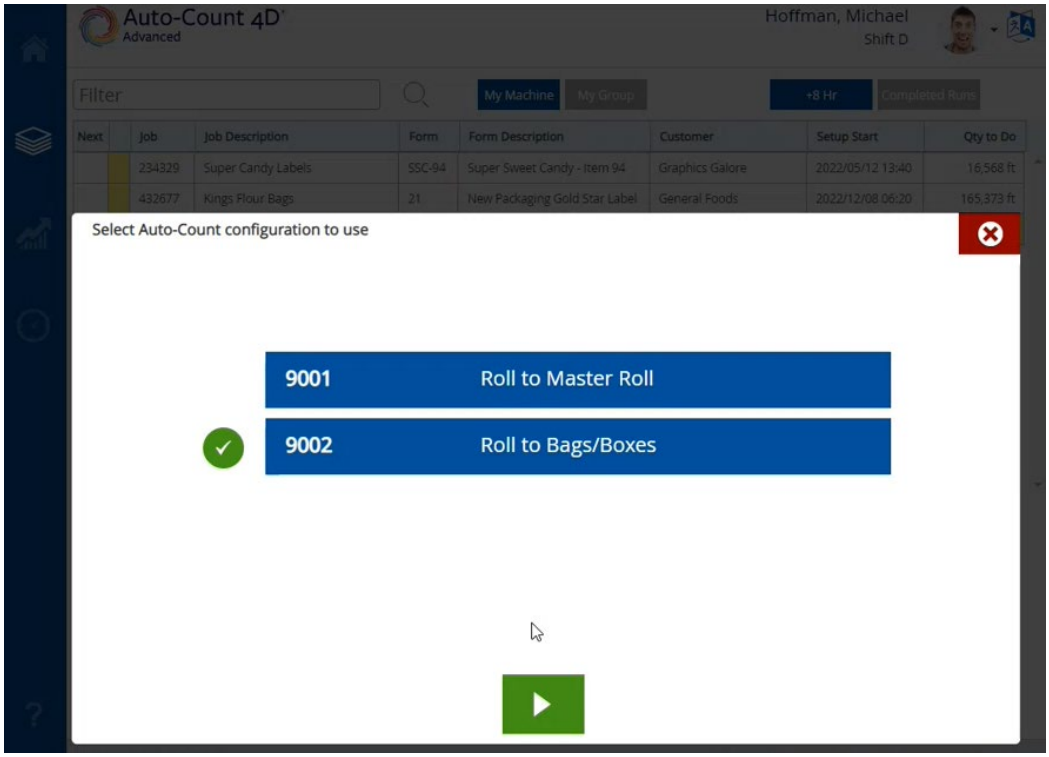


Example 2: Push Button = Count Net per Block

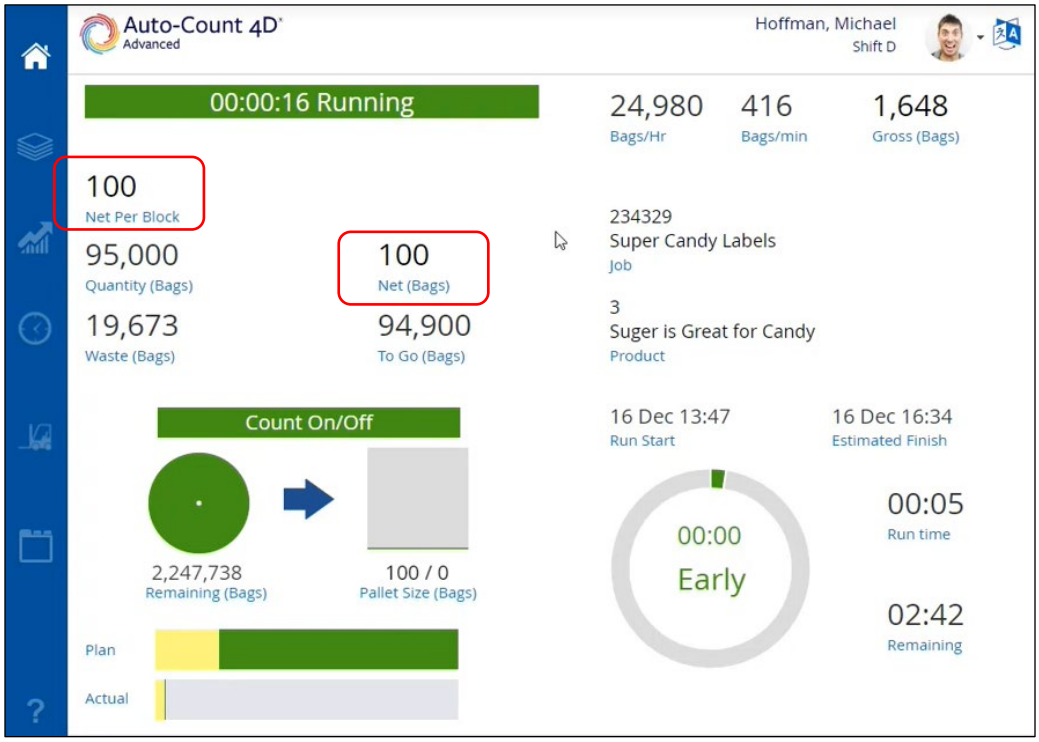
This job is a simple roll to carton configuration with a Net per Block counting method. We want to use the machine configuration which counts Net per Block values when the operator presses the external push button. The operator selects the job from the run queue for the same machine.



Notice in this example that the job was assigned the wrong machine configuration. The operator will be able to choose the correct configuration after they select the job because we have the option enabled that forces them to choose a configuration.



Because we chose the 9002 machine configuration, there is now a Net Per Block field. In this example, the operator pressed the button to count 100 bags that were placed in the box. The waste decreases by 100 and the net count increases by 100 every time they press the button.



Add Custom Pallet/Label Tickets

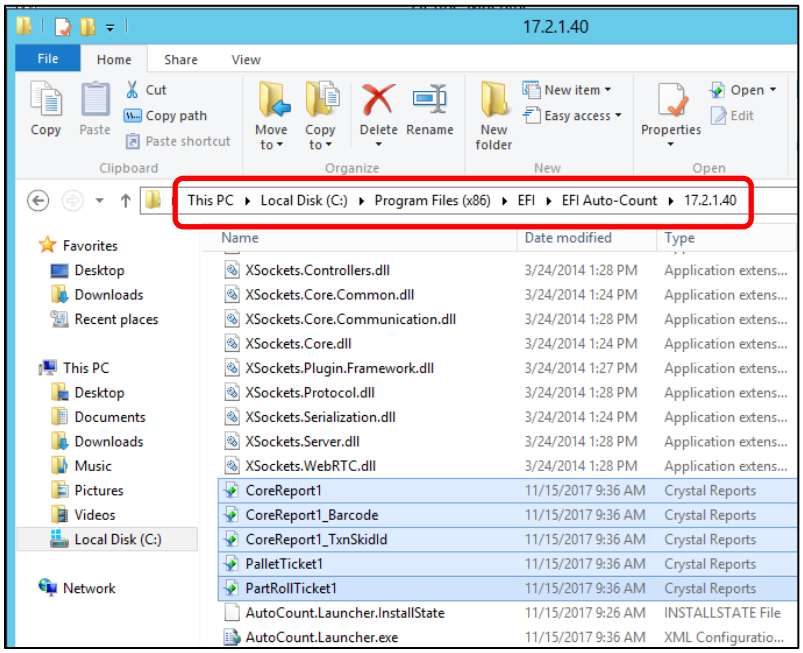
For Auto-Count 4D, users must add custom pallet/label tickets to be used during production. The Reports tab will be enabled so you can select your reports. Before you can add tickets, you must first create them and then put them in the directory where Auto-Count 4D can access them. Auto-Count 4D comes with a set of basic reports from which you can use to create your own reports.

Notes Do not use special characters, (i.e. &, /, +) within custom report file names. The reports may not load properly.

Fonts installed for use on reports will only be picked up after you reboot the server. This would apply to barcode fonts loaded for pallet tickets.

To add skid ticket reports to Auto-Count 4D

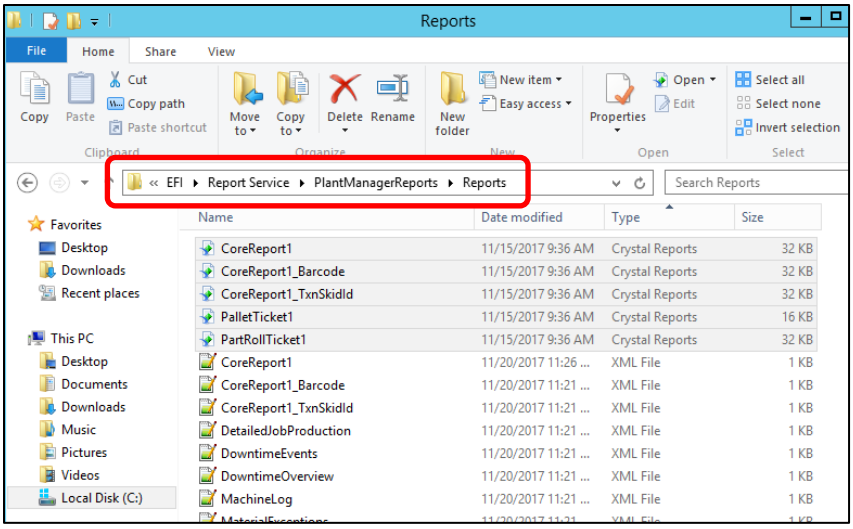
1. You must create a custom ticket/label report using the generic report which comes with your Auto-Count 4D. Navigate to the Auto-Count 4D directory below to access these reports: C:\Program Files (x86)\EFI\EFI Auto-Count*release version.*
2. From this directory select the Crystal Report files you want to modify. Take them into Crystal Reports Version 10 and modify them to your needs.



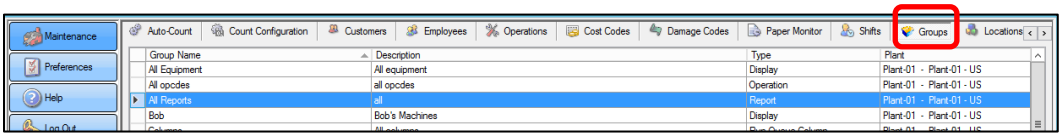
3. Once you have modified these reports, place them in the Reports folder here:

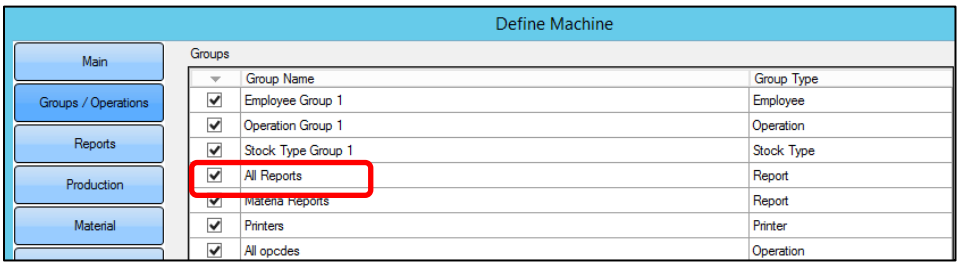
   C:\ProgramData\DMI\Report Service\PlantManagerReports\Reports

   Note The ProgramData directory is typically 'hidden'. You must unhide directories to view it.

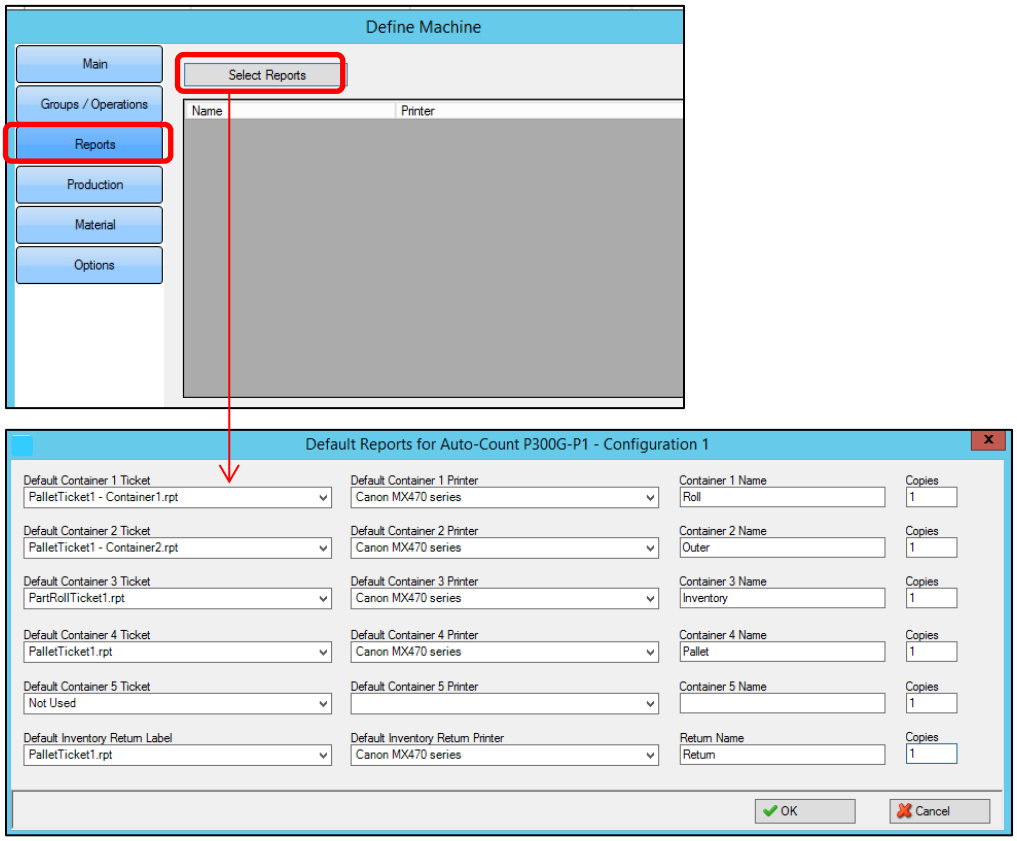


4. Place these reports in a Report Group and assign that Group to the machine.





5. Now you can select these reports for your Auto-Count 4D machine in Plant Manager.



Select the printer you want to use for each report as well.

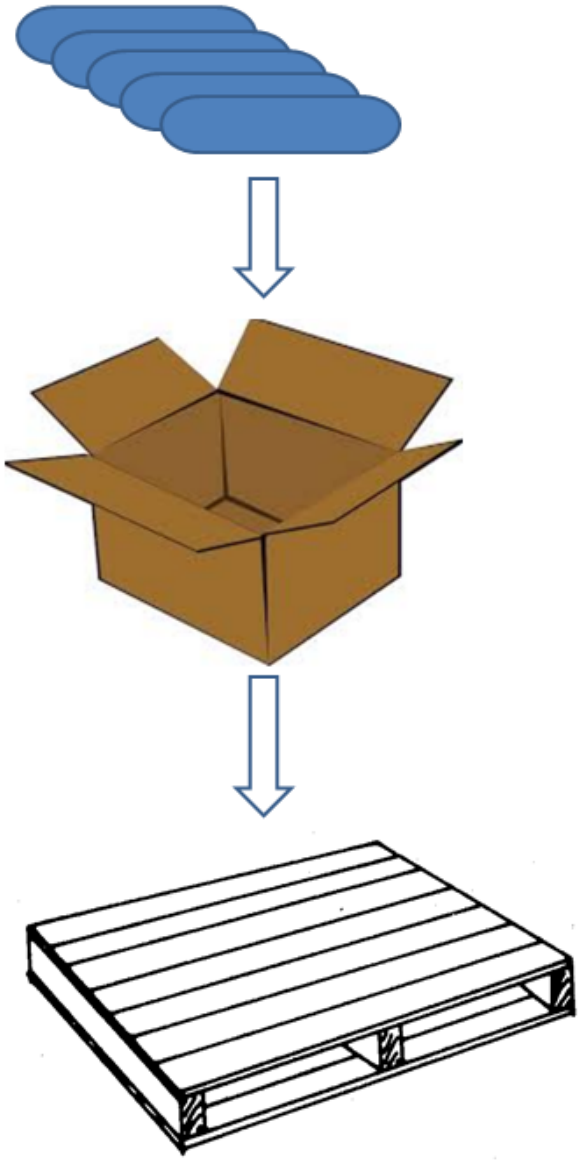
Default Container Tickets (1,2,3): This is the label which will be generated for the container. If you only need a basic skid/pallet ticket for a single output, then you would only need the Default Container 1 Ticket. If you need more than one label for different containers then assign these reports to the correct label/ticket. See the next section on Container Tickets.

Default Inventory Return: This label is generated for partial rolls produced that will be going back to inventory.

Container Tickets

Auto-Count 4D supports multiple levels of labels or skid tickets depending on the type of job the MIS sends. For example, if you send a job that contains multiple containers (rolls -> boxes - > pallets) then you can assign a specific report to each of those container tickets. This is mostly used in the packaging industry. If you only need a basic skid/pallet ticket for a single output, then you would only need the Default Container 1 Ticket.

For example:



Container 3: Rolls coming off the press.

Container 2: Boxes of finished rolls.

Container 1: Pallets that hold the boxes.

Setting Up Scales

Please see the *Auto-Count 4D Scales – Set Up & User Guide* for details on how to set up and use scales.

Setting Up Printers

Please see the section “Setting Up Printers” in the *Auto-Count – Setup Guide* for details on how to set up and use printers. These are the basic steps:

1. Add a printer to the server machine where the Report Service is installed. Use the Windows Add a printer feature.
2. In Plant Manager Browser > Reports > Diagnostics, rebuild the printer cache.
3. In Plant Manager, assign printers in Define Machine > Report and set up Printer Groups.

Upgrading Plant Manager and Auto-Count

Note **Please review the Auto-Count Requirements Guide for full software and hardware details.**

SQL Server Admin Rights–**You must have SQL Server administrative rights (Database Owner rights) to upgrade Plant Manager.** Plant Manager must be upgraded before Auto-Count or other DMI components.

For AC4D you must be on Microsoft .NET Framework 4.8.

Uninstall Crystal and upgrade: Upgrade Crystal Reports for Visual Studio SP 28 (v13.0.28). If you are upgrading Crystal Reports from a release prior to SP22 (v13.0.22), then **uninstall** your current version before you install v13.0.28. This includes deleting any leftover folders.

If you are upgrading Plant Manager Browser and have customized the web.config file for your specific needs, then you must save this custom file to another location before you upgrade. This file gets overwritten with each upgrade/installation. Once you have upgraded, edit or replace the latest web.config file with your custom edits.

You must run the Plant Manager Configuration tool after installing version 19.1 and upgrading the database. Otherwise, the report service configuration will not be updated and scripts will not be updated.

Reports: If upgrading from 18.5 or older, then you must re-select the skid tickets in Plant Manager > Define Machine. Also be sure to set the skid tags on the machine configuration level by either using the “Use Machine Reports” check box or set the tags specifically for that configuration.

EFlow workflows: If you are upgrading from version 19.1.1.310 (or lower) then you must run the Auto-Configure tool after you install Plant Manager. This will set the *MaxSendRetryDelay* option on the EFLOW subscription. This will help in scenarios where network issues are common.

Enable Simulator: As of v19.1.1.423, the simulator will be turned off by default for machines. To enable it, go to Options > Advanced page in Plant Manager.

Label Writer Reports Upgrade: If you are upgrading to version 19.1.1.500 or higher and used the Label Writer to create reports, you must run Plant Manager Configuration again. Then copy your reports from C:\ProgramData\DMI\Report Service\EFILabelReports\Reports to C:\ProgramData\DMI\Report Service\EPSLabelReports\Reports. Finally, in the Reports tab of Plant Manager Browser, click Rebuild Report Cache.

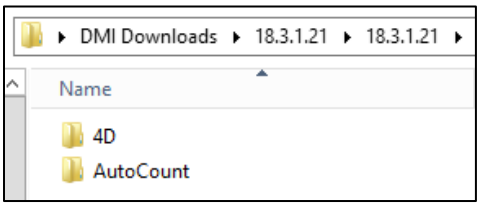
This section was designed for the system administrator or the person responsible for upgrading and maintaining Auto-Count in your plant and who has the proper administrative (SA password) rights to SQL Server and all servers needed for the upgrade.

Upgrading SQL Server

If you are also upgrading SQL Server you must reboot the server after the upgrade to ensure the registry is properly cleared of keys from previous versions. Again, if you are upgrading Crystal reports, you must also uninstall the previous version including the SAP Crystal Repots directory before upgrading.

Download the Upgrade Files

You should have received the Installation/Setup files for the upgrade from your Support Representative in a zip file. Once unzipped, the directory looks like this, with the folder names reflecting the build number you were sent:



From the **AutoCount** directory you will first install Plant Manager, Plant Manager Services (Connector/Importer /Report Service), Plant Manager Browser, and Auto-Count. (Paper Monitor can also be installed at this time from the utility.) Then from the **4D** directory you will install the Auto-Count 4D files.

Once you have completed the installation, you will complete the upgrade by configuring the components.

Step 1: Install Components

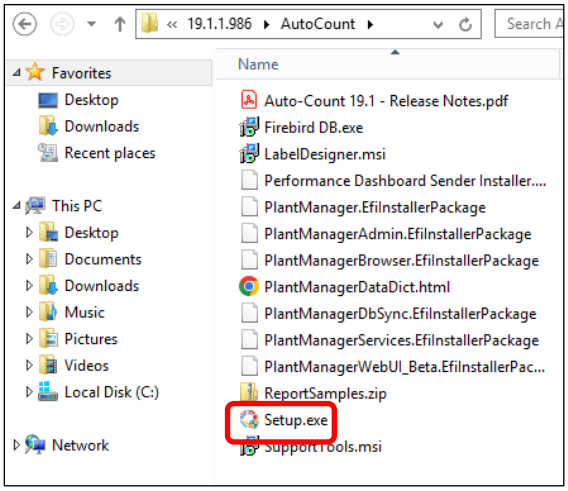
In this step you will install the components of Auto-Count that you need to upgrade.

Install Plant Manager Components

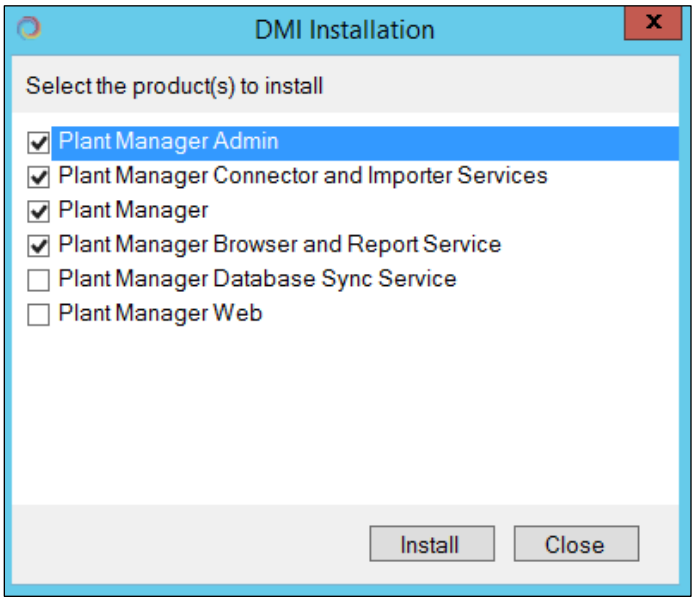
To install Plant Manager Components

Note Install Plant Manager Admin on your SQL Server.

1. From the Auto-Count installation directory, double-click the installation file **Setup.exe** to start the wizard.



2. Select **Plant Manager Admin**, **Plant Manager Connector and Importer Services**, **Plant Manager**, and **Plant Manager Browser**. Click **Install**.



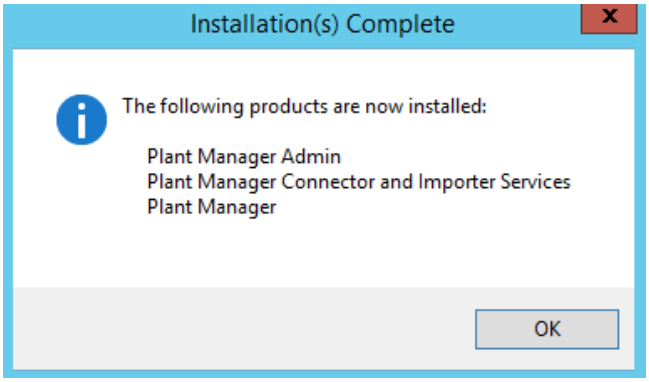
Note At this time you may also install Auto-Count Classic 1000/3000, Non DMI or Paper Monitor if they reside on the same computer. Otherwise you will run Setup.exe on the computers where these components reside.

3. Click **Next** in the Plant Manager Admin setup window.
4. In the End User License Agreement window, accept the terms and click **Next**.

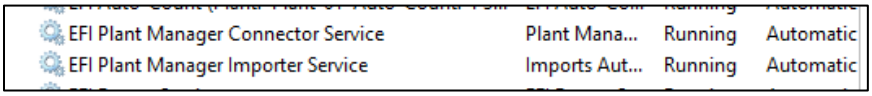
5. In the Plant Manager Admin Install Location window, accept the default location and click **Next**. You may click **Browse** and choose another location if needed.
6. In the Ready to Install window, click **Install**. The installation wizard will install Plant Manager Admin.

   Click **Finish** when the Plant Manager Admin installation is complete.
7. Next you will be prompted to install the other components you selected. Click **Yes**.

   When this completes, click **OK.**



   Click **OK** to acknowledge this message and then Close.
8. Confirm that the **Plant Manager Connector** and **Plant Manager Importer** services have started by opening the Services utility. This service should always be set to automatically start.



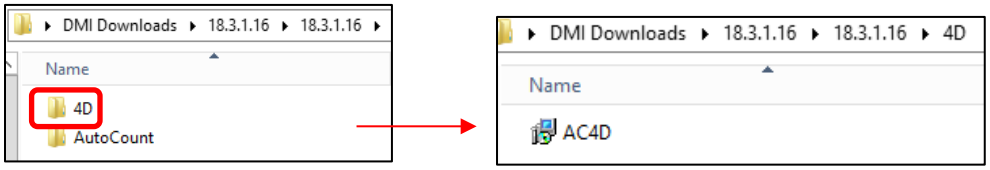
Next you can install the Auto-Count 4D component.

Install Auto-Count 4D

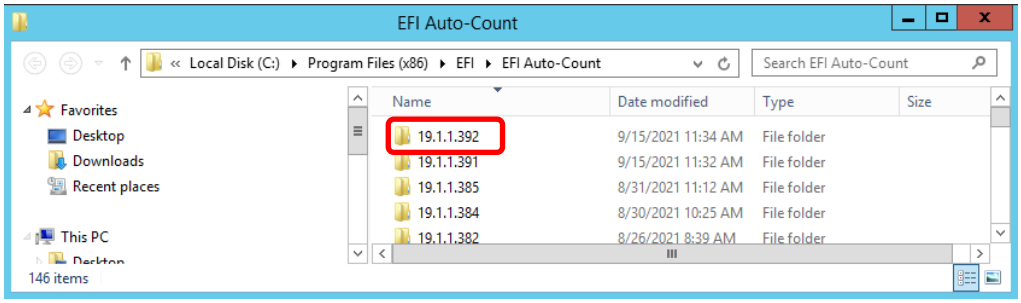
Note To upgrade a 4D machine, operators should end runs and leave the machine in Idle.

To install AC4D

1. From the 4D directory, run the AC4D installation utility.



2. Navigate to the 4D release folder which was just installed at Program Files (86x) > EFI > EFI Auto-Count to ensure it was properly installed.



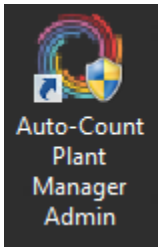
Step 2: Configure Components

Now you must complete the upgrade and configure certain components.

Configure Plant Manager Admin

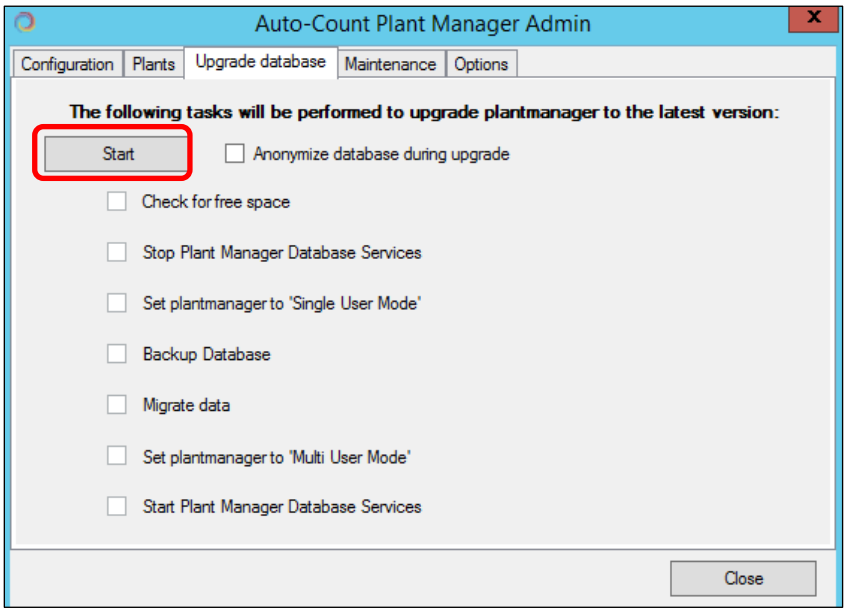
To configure the Plant Manager Admin Utility

1. Open Plant Manager Admin from the desktop shortcut created by the installation utility.

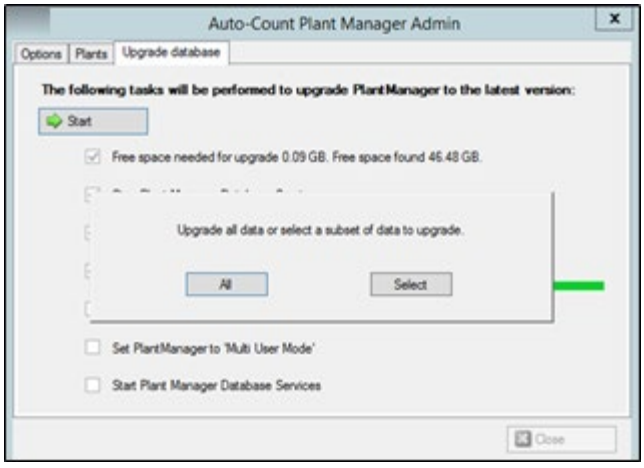


2. In the **Upgrade database** tab click **OK** to confirm that you must upgrade to the current version. Then click **Start**.
3. Plant Manager Admin will now back up your current database and migrate your data to a new database.

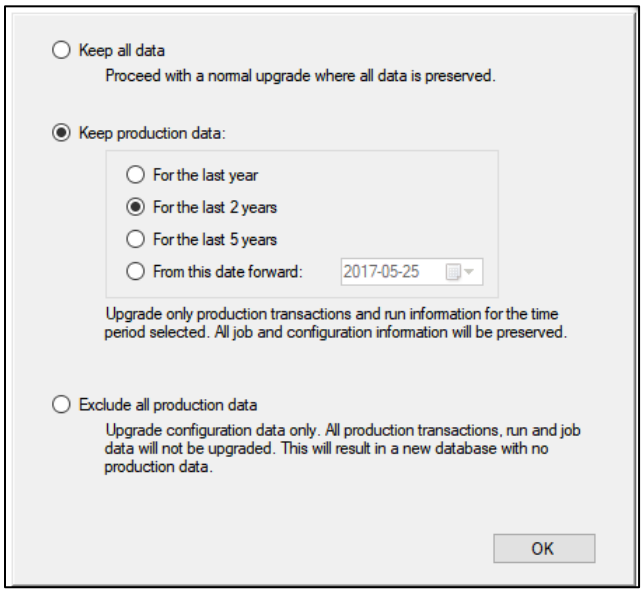
> **Warning** You may receive a “time-out” message at this point in the installation. This means a connection to the Plant Manager database is still open and the upgrade will fail if you proceed. Close all connections to the Plant Manager database and verify that all users have logged out. Then start again at step 2 above.



After a backup database has been created, you will be asked what/how much data you want to upgrade. Click **All** if you want to proceed with a normal backup of all data. Click **Select** if you want to choose the amount of data to upgrade.



If you chose Select then you can choose the data you want to upgrade.



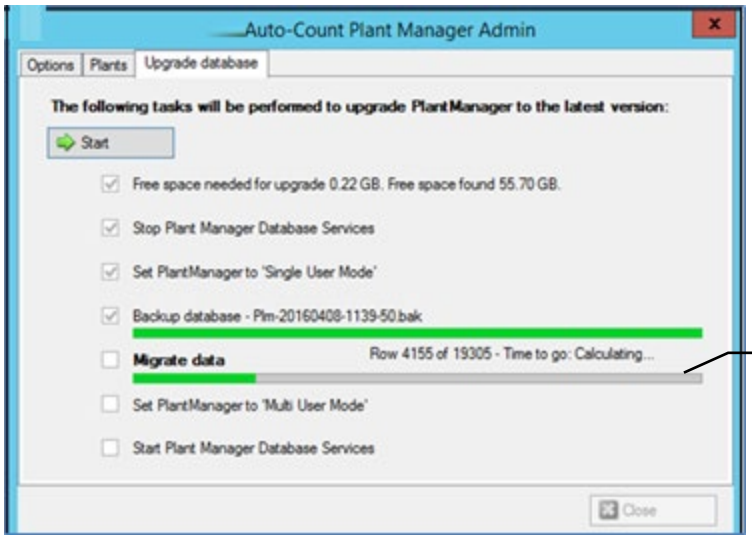
- **Keep all data**: Proceed with a normal upgrade where all data is preserved.
- **Keep production data**: Upgrade only production transactions and run information for the time period selected. All job and configuration information will be preserved.

  > For the last year

  > For the last 2 years

  > For the last 5 years

  > From this date forward: (choose a date)
- **Exclude all production data**: Upgrade configuration data only. All production transactions run and job data will not be upgraded. This will result in a new database with no production data.



The migration may take some time depending on the amount of data. You can monitor the progress here.

4. Click **Close** once the upgrade process is finished.

There is no need to configure Plant Manager itself since it is installed and now the database has been upgraded. Next, you must configure Plant Manager Browser.

AutoConfigure

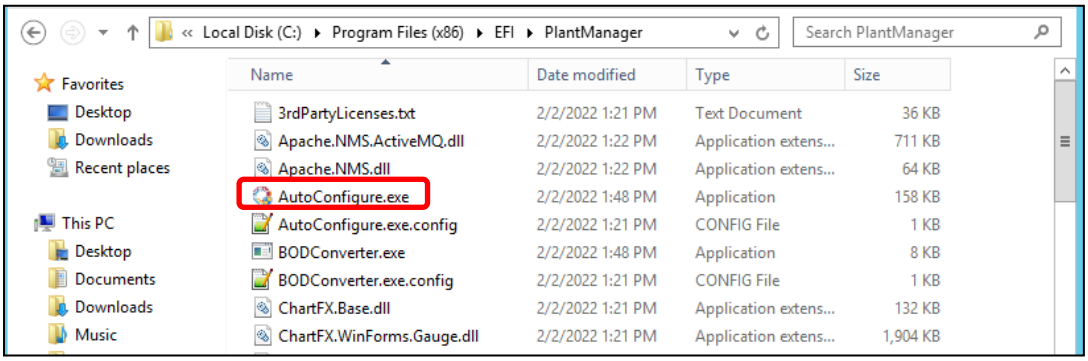
Upgrades If you use eFlow and are upgrading from version 19.1.1.310 (or lower), then you **must** run the Auto-Configure tool after you install Plant Manager. This will set the *MaxSendRetryDelay* option on the EFLOW subscription. This will help in scenarios where network issues are common.

To use the BOD v4 API messages, you must upgrade to v19.1.1.533 or higher and re-run AutoConfigure.

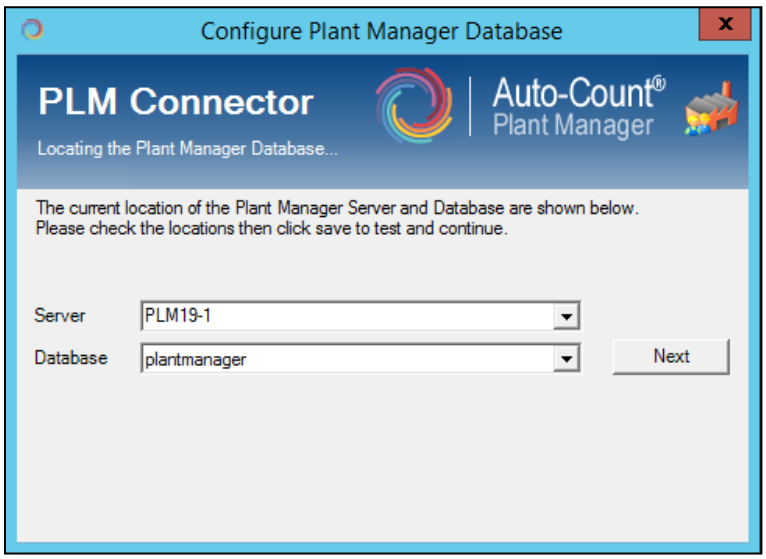
You may also use this section to reset your eFlow connection. AutoConfigure will automatically use the last known Facility ID. Unless required, **do not change, or remove Facility ID**.

To run AutoConfigure

1. Open the Plant Manager Installation directory. Typically, C:\Program Files (x86)\EFI\PlantManager. Double-click the **AutoConfigure** application.



2. Choose the **Server** where you installed the Plant Manager database. In **Database**, if **plantmanager** is not displayed then select it.



Click **Next** or **Save** if you changed the server.

3. (*eFlow users only*) Enter the URL of your eFlow installation. If the installation cannot find eFlow, simply enter the address http://<*eFlow server name*>:8081 Then complete the following eFlow Settings:

   eFlow Facility: Enter the eFlow Facility name. You can find your Facility in the topic names on the Subscriptions tab in eFlow.

   <Facility Name>.<Business Function>.< Root Element Name>.<Version>

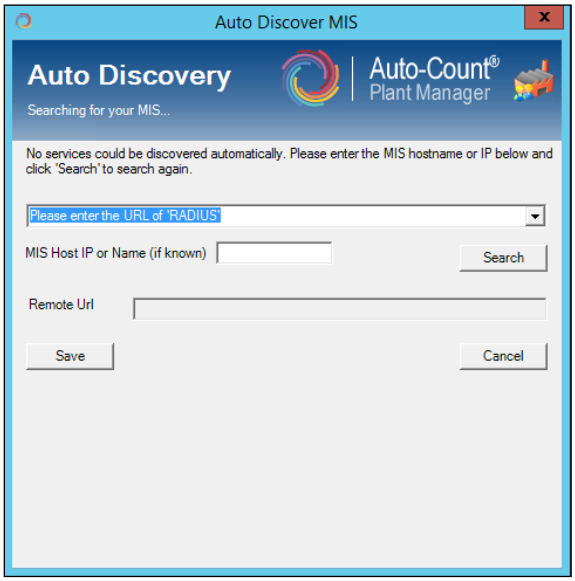
   ! We do not recommend you leave this field empty; then Auto-Configure will use the Plant ID to create topics *per plant* and PlantId@ is prepended to the client id for each plant. This increases the number of topics being created and makes is harder to add plants in the future. Using a Facility ID makes it easy to add plants because the MIS is listening to one set of topics and all new plants will simply send to that set of topics. If you use Plant ID, then the MIS listens to several sets of topics based on plants.

   ! AutoConfigure will display the last saved Facility Name. If you enter the wrong eFlow Facility ID then it generates the wrong set of topics.

   eFlow Company: This is for licensing purposes and does not affect messaging or topics. You can find your eFlow Company ID in the local eFlow installation under Customer License Management. Enter it exactly as displayed. If you cannot locate the license, this field can remain empty, and you can proceed with the installation.

Click **Save**.

4. From the drop-down list, select the Reporting Service you want to use to create reports.
5. Enter or select the path to your MIS:



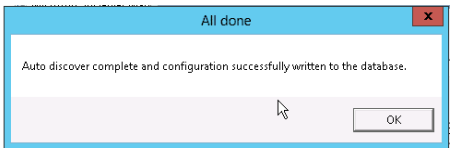
Radius users: Enter http://servername:4141 as the URL and then click **Save**.

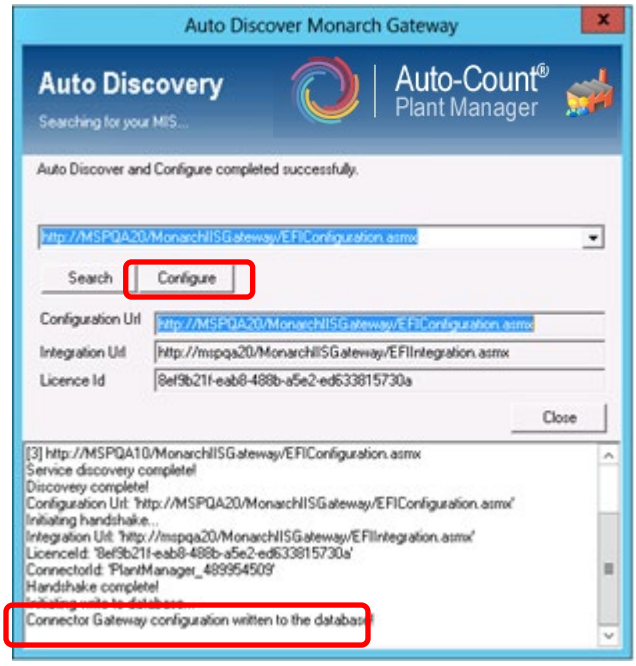
Pace users: Enter an **MIS Host IP** to generate a valid URL then click **Save**

Monarch Users: In the Auto Discover window, select a path from the drop-down list. If no paths exist, click **Search** to display a list of paths to the Gateway configuration file.

> **Note** If the auto-discovery tool cannot find any paths, manually enter the URL to the Gateway configuration file. (EFIConfiguration.asmx)

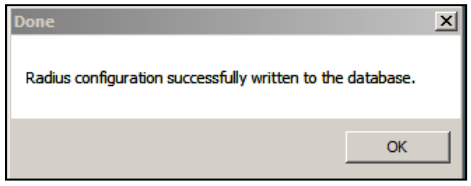
5. (*Monarch MIS*) Click **Configure** once you have selected a path. This process may take several seconds. Click **OK** once it is complete. The **Configuration Url**, Integration **Url**, and the **License Id** fields will now be populated.



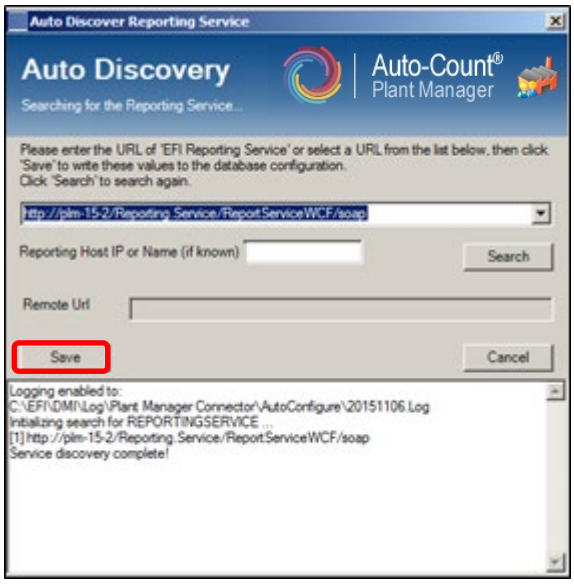


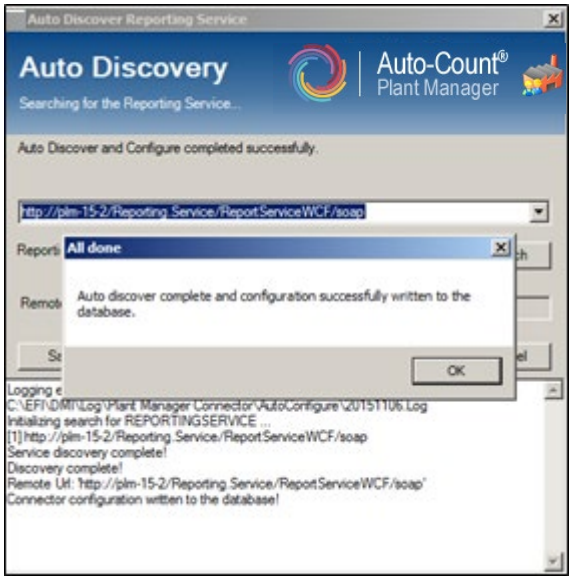
(*Radius MIS*)

Click **OK** at the successful configuration message. Then click **Next** on the main page.



The Reporting Service will now be discovered. When that is finished click **Save**.





6. Close the Auto Discovery window to return to the installation wizard. Then close the installation.

Upgrade Plant Manager Configuration

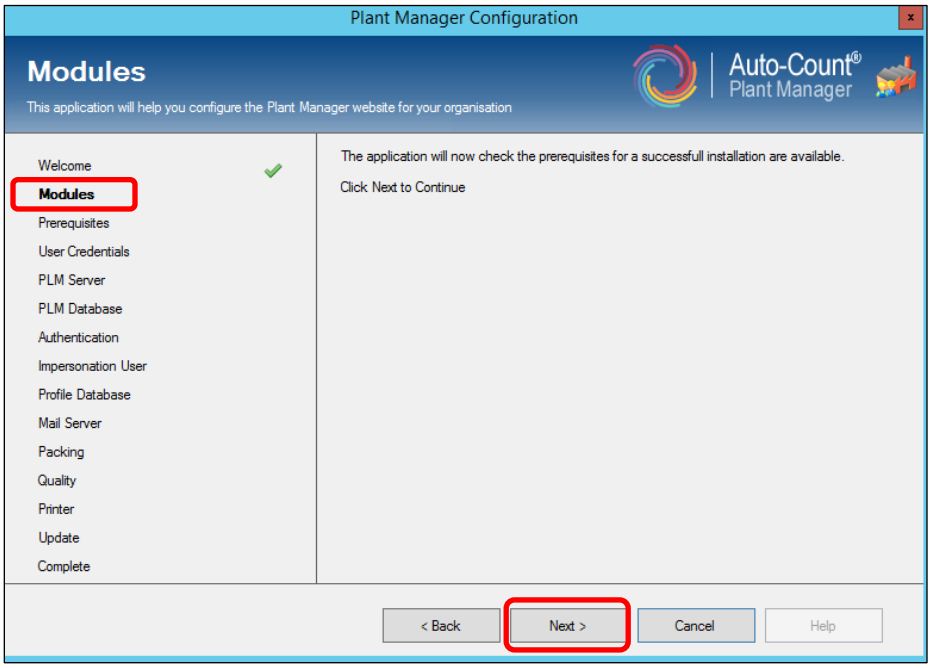
Prerequisite

- In ASP.NET, an Impersonation User must have Active Directory Read and Write access to allow users to log in.

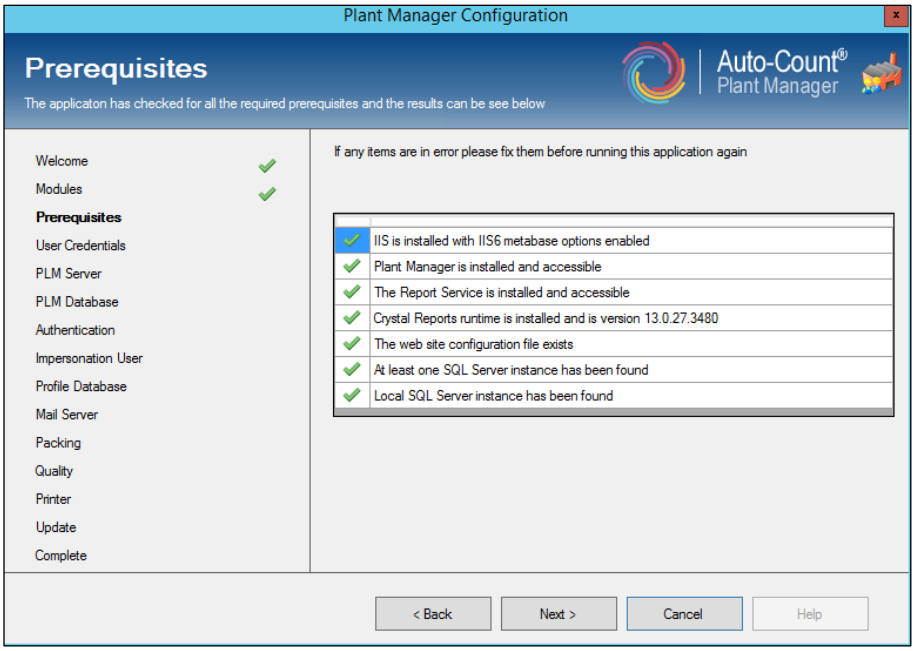
To configure Plant Manager Browser

1. From your desktop, open the **Plant Manager Configuration** wizard.

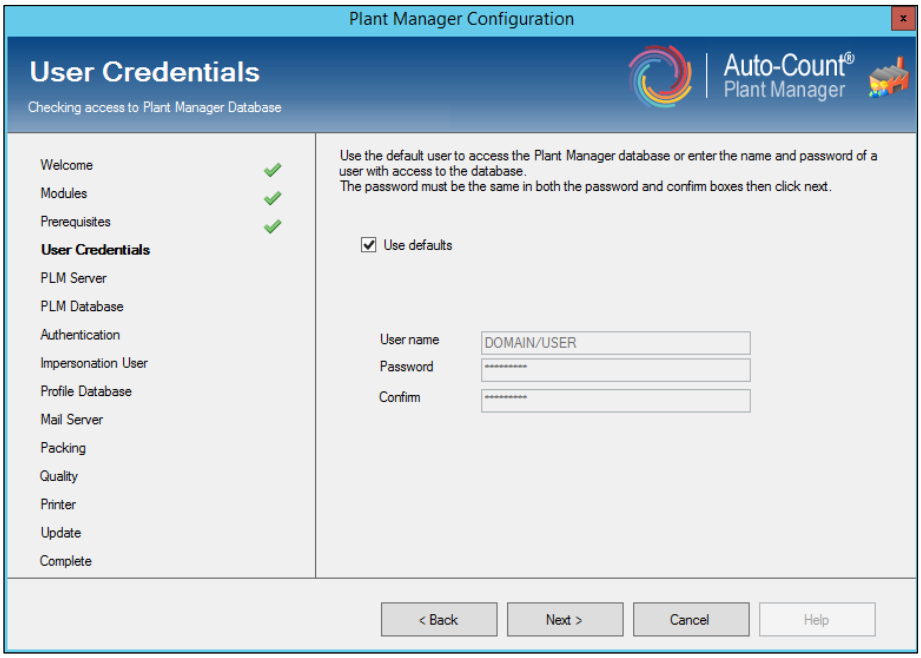
2. At the Welcome window click, **Next** to continue. The installation will now install the Plant Manager Browser and Reports Service modules. This may take a few minutes.
3. At the Modules window click **Next**. The installation will now check to make sure you have the prerequisite components installed.



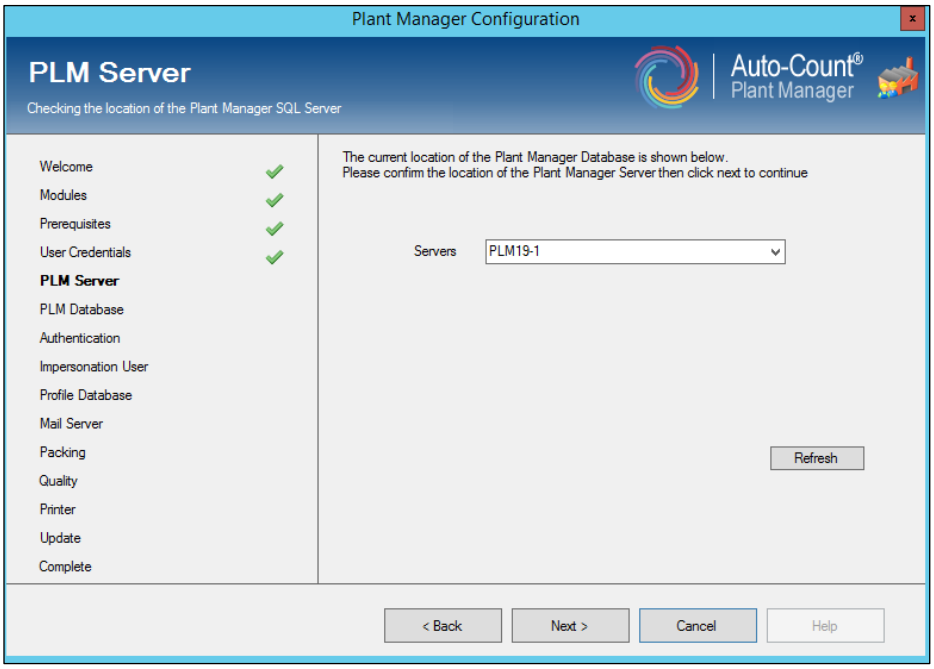
4. In the Prerequisites window you will be shown a list of requirements and if your computer has met these requirements. Click **Next** if all the checkmarks are green.



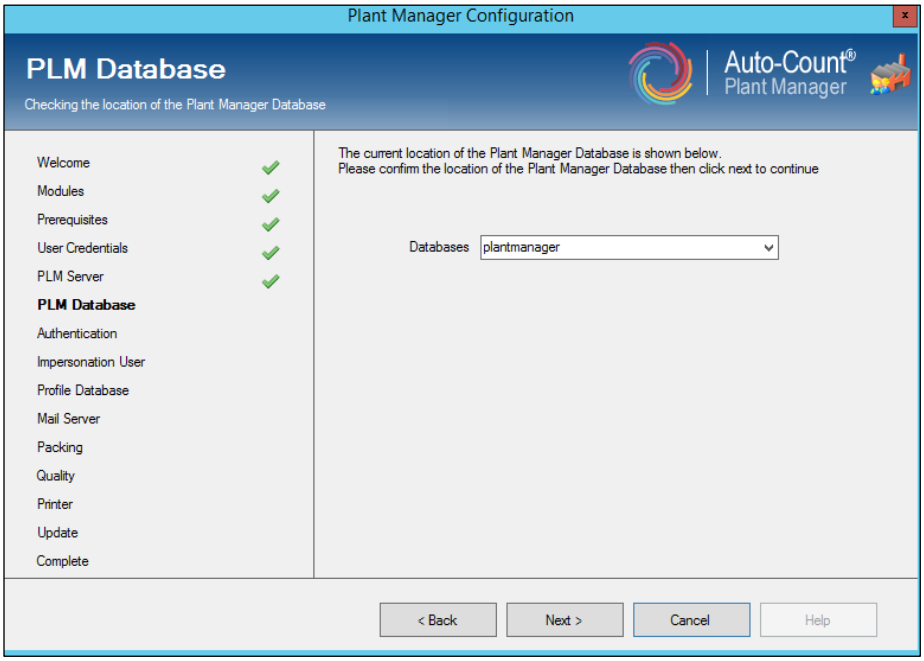
5. In User Credentials, accept the default login. This is a SQL login and we have created a default one called efipm. You may create your own if necessary. Click **Next** to continue.



6. In PLM Server, select your current SQL server which contains your Plant Manager database. Click **Next** to continue.



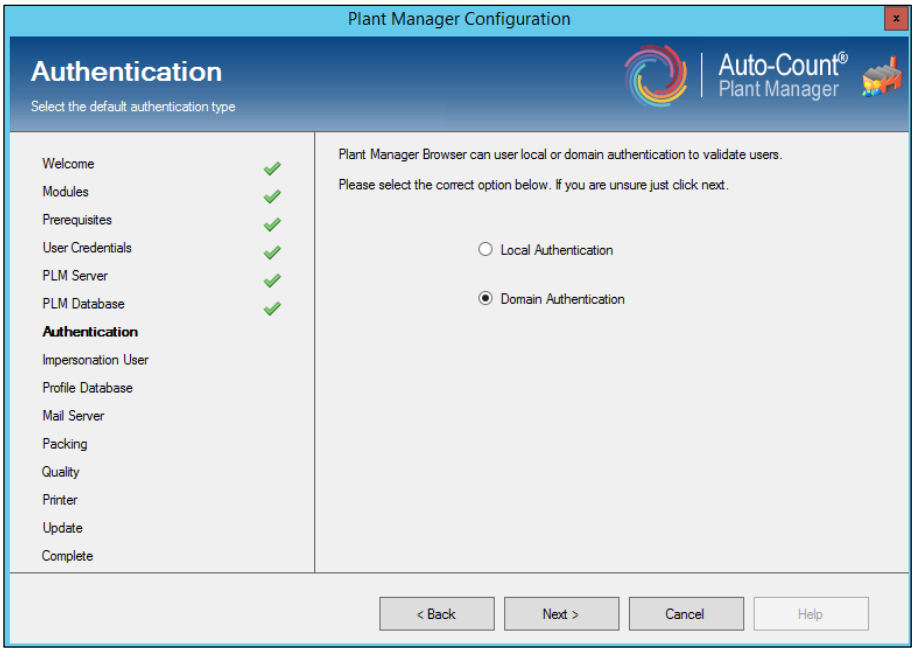
7. In PLM Database, select the **PlantManager** database from the drop-down. Click **Next** to continue.



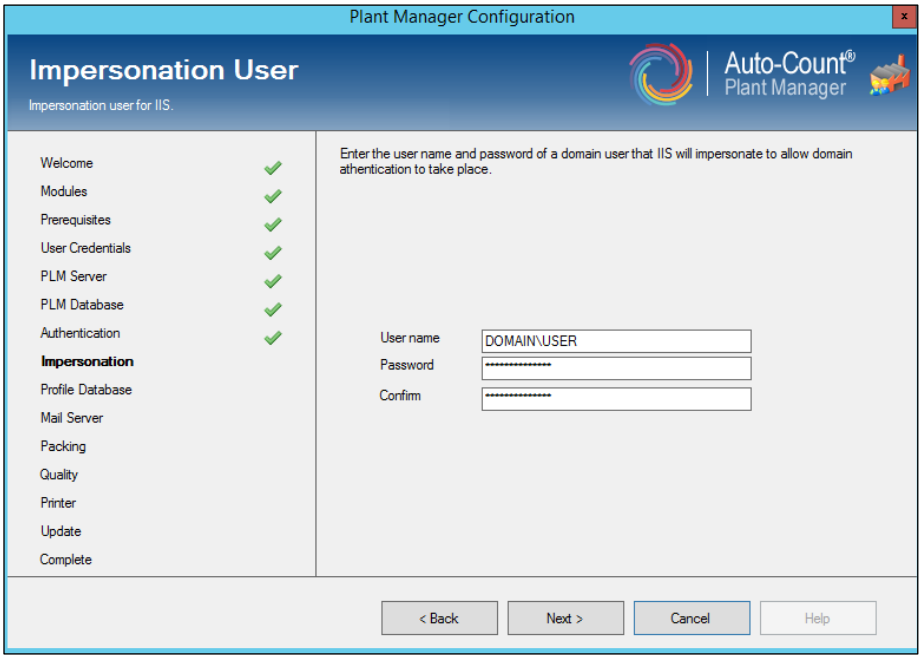
8. In Authentication, select which type of login your company uses – local or domain network. Typically, you would choose **Domain** so employees can enter their established network username and password. Chose Local if this will not be used on a network environment.

> **Note** If using Domain Authentication then you must add two groups to your Active Directory service: **PlantManagerUsers** and **PlantManagerAdmins**. Anyone assigned to these groups will have access to Plant Manager Browser using their domain login. If they do not belong to one of these groups, then they will receive an Access Denied error message.

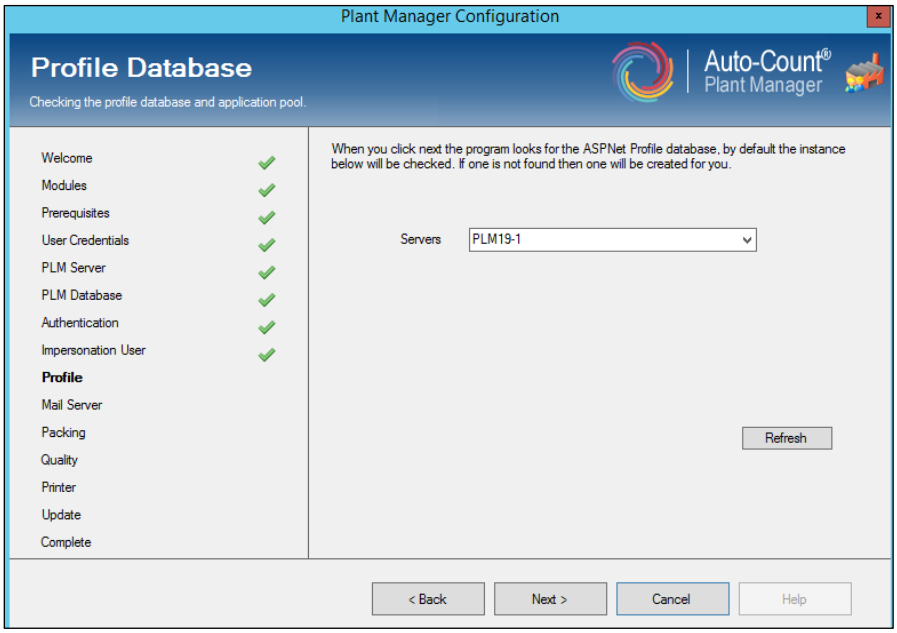
Click **Next** to continue.



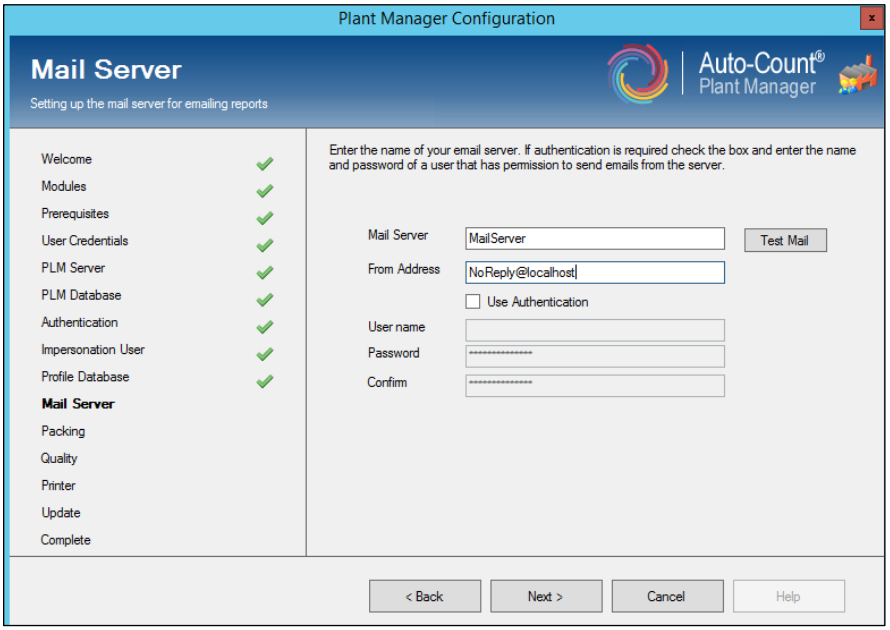
9. If using Domain authentication, enter a user from the domain which IIS will use to access Plant Manager Browser. When the user logs in at the application, they do not have to enter the domain - just their network username/password.



10. In Profile, confirm the correct server is selected to check for the ASPNet Profile database and click **Next**.

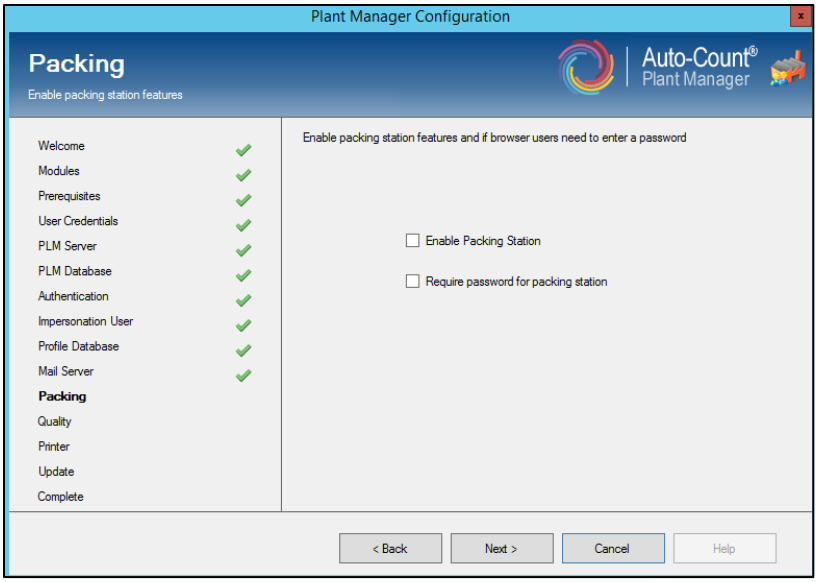


11. In Mail Server, enter the name of your SMTP server. Then accept the default From Address or enter one of your own. Select Authentication if your mail server requires user authentication.



Click **Test Mail** and enter an email address. Click **Test**.

12. In **Packing**, choose **Enable Packing Station** to use the packing station feature. You must also enter a license key provided by Support to use this feature.



13. In **Quality**, if you bought a Quality Module license then enable this module here. You must have a license. Please contact ePS Services if you have questions. If you did not purchase Quality, click **Next**.
14. In **Printer**, select a default printer which Crystal Reports can use if no printer is specified for a report. These are currently installed printers on the current server on which Plant Manager is installed. The printer you select is saved in the report service configuration files to be used by the report service.
15. In Update, click **Next**.
16. Once the wizard is completed you can test your new Plant Manager web site using the link. If you need to troubleshoot your web site, then run the wizard again and check your settings. Otherwise click **Finish** to close the wizard.

Your users can now access the Plant Manager Browser web site using this link. They will need to enter their network login username (domain/username) and password. (Or for Local authentication, enter the login for that computer.)

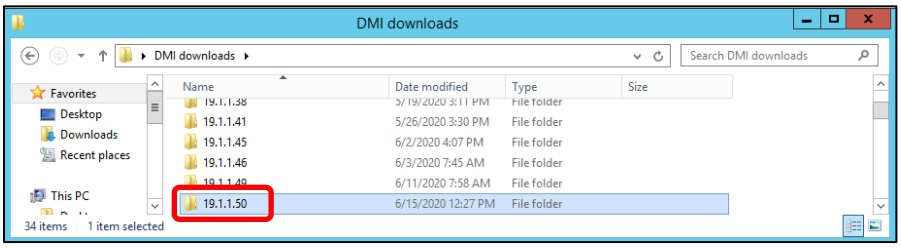
> **Note** Please search the Knowledgebase articles in Communities or call Support to learn how to set up Plant Manager Browser with Domain Authentication when server is not in a domain.

Upgrade Auto-Count 4D

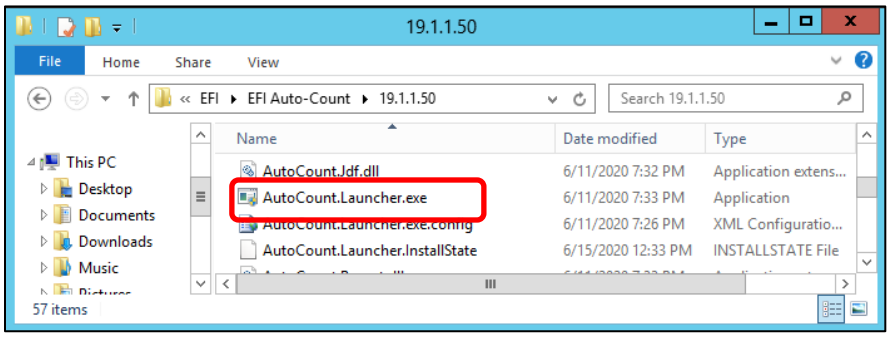
> **Warning** Please ensure that all machines to be upgraded are in the Idle state before you run the Launcher application below.
>
> **Note** If your machine is set to use Auto-Upgrade in Plant Manager, then you do not have to manually upgrade your machine. The Launcher will automatically run the next time the machine is in Idle.

To manually upgrade Auto-Count 4D

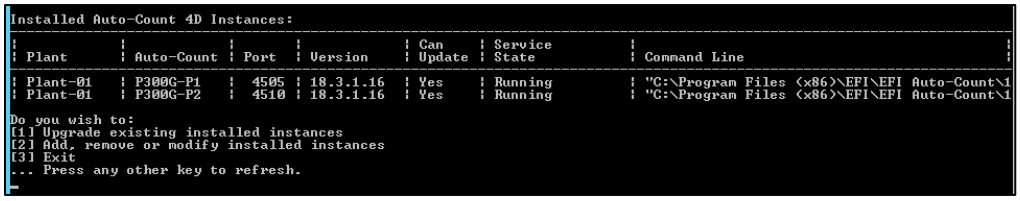
1. Navigate to the 4D release folder which was just installed at Program Files (86x) > EFI > EFI Auto-Count.



2. Open the release folder for the version you want to install and double-click **AutoCount.Launcher** to open the 4D utility program.



3. When prompted, enter '**1**' to upgrade 4D machines with the Smart Upgrade choice



4 Press 'N' when asked if you want to create a new subscription for the Connector.

5. The Smart Upgrade will now detect the Connector and Report services and proceed to automatically upgrade all machines.

> **Note** If you did not choose to use the Smart Upgrade choice you will be prompted to manually enter the address to the Connector and Report services. Then you will have to manually choose the machines to upgrade. Simply follow the prompts in the installation.

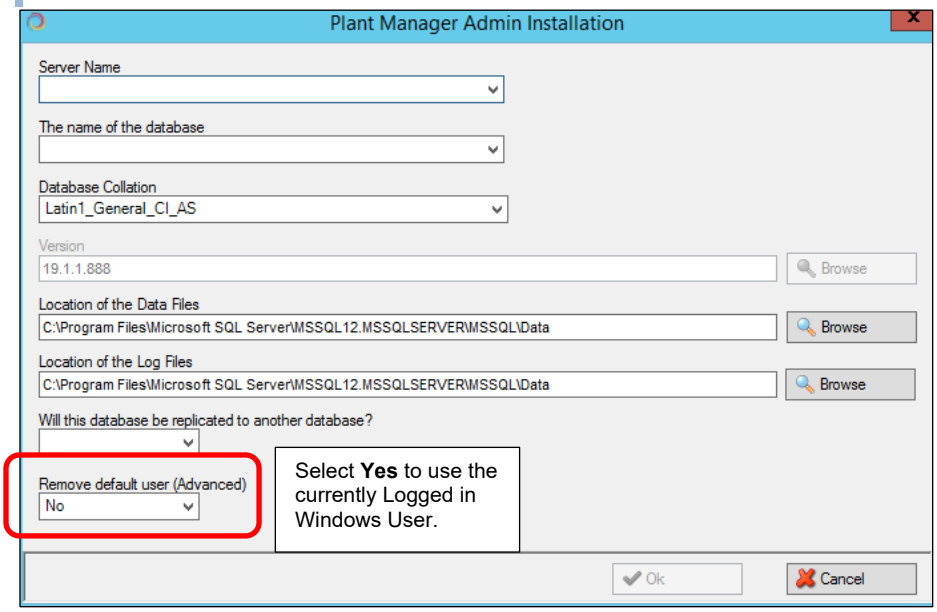
6. Enter '**y**' to start the new 4D machine service. The 4D machine or instance is a service.
7. Press any key to exit the installation wizard.

Appendix A: System Administrator Maintenance

Windows Integrated Security in Plant Manager

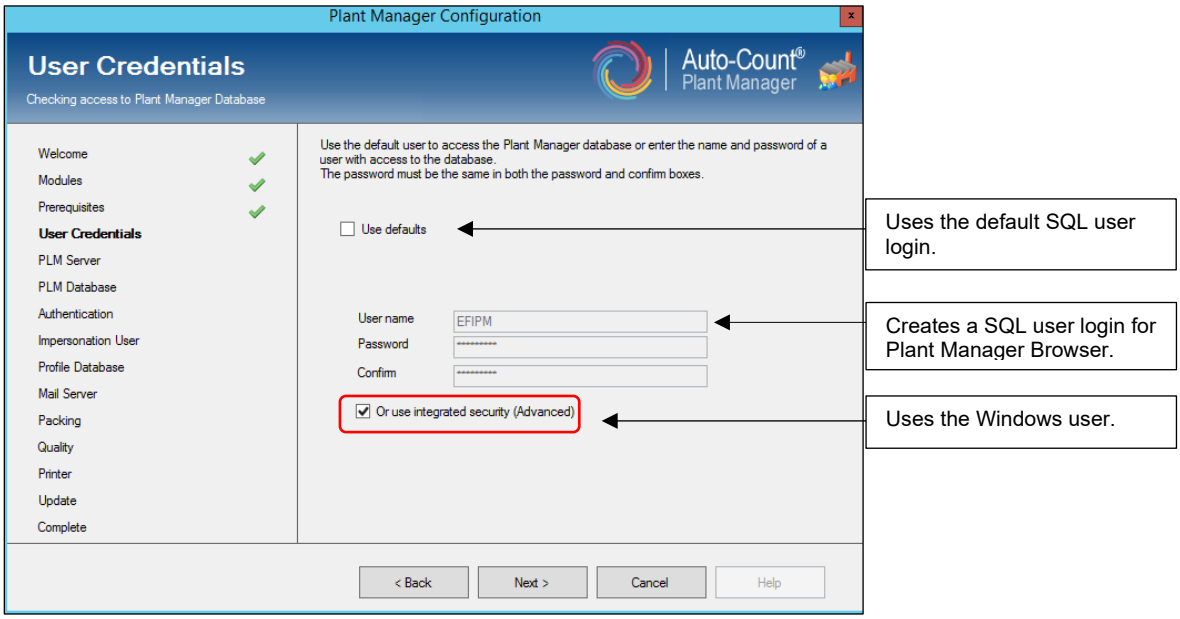
Your security policy may require you to use a Windows User instead of the automatically generated default SQL login user for the Plant Manager database. When initially creating the Plant Manager database with the Plant Manager Admin tool, you can choose to use the currently logged in Windows user to create the Plantmanager database. By doing so, you will use Windows managed security for Plant Manager.

Note If you have already created the Plantmanager SQL database using the default login user and want to switch to using Windows Integrated Security, then contact your ePS Support representative who can walk you through this process.

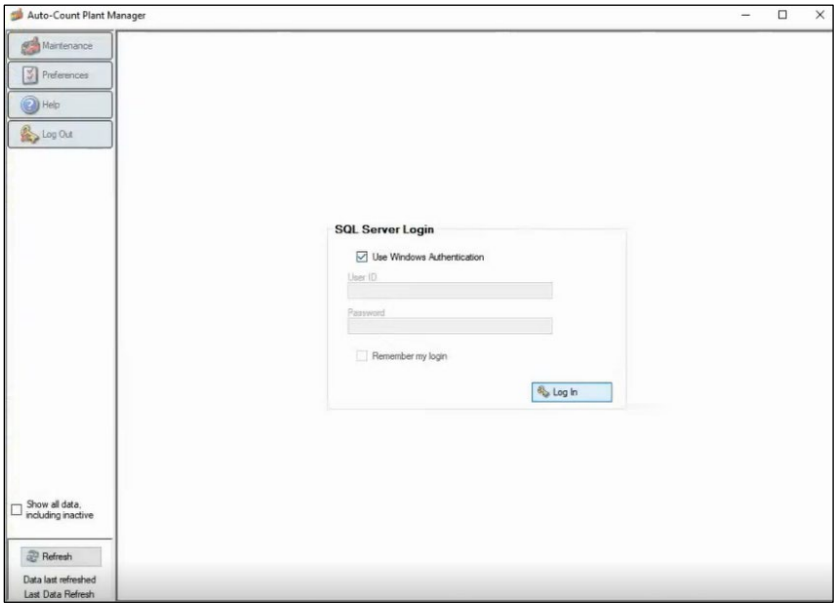


The **PlantManagerConfig.xml** file will reflect this: *IntegratedSecurity="true"*

When setting up Plant Manager Browser and its associated applications, you can then choose to use this Windows managed security as well.

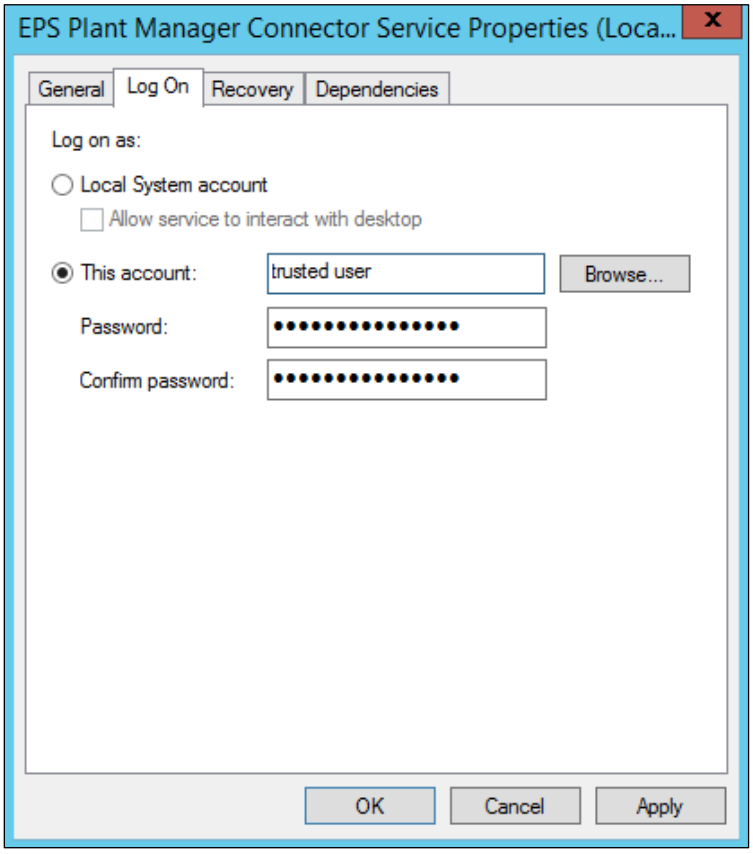


When logging into Plant Manager you can use the Windows Authentication checkbox.



Integrated Security and Services

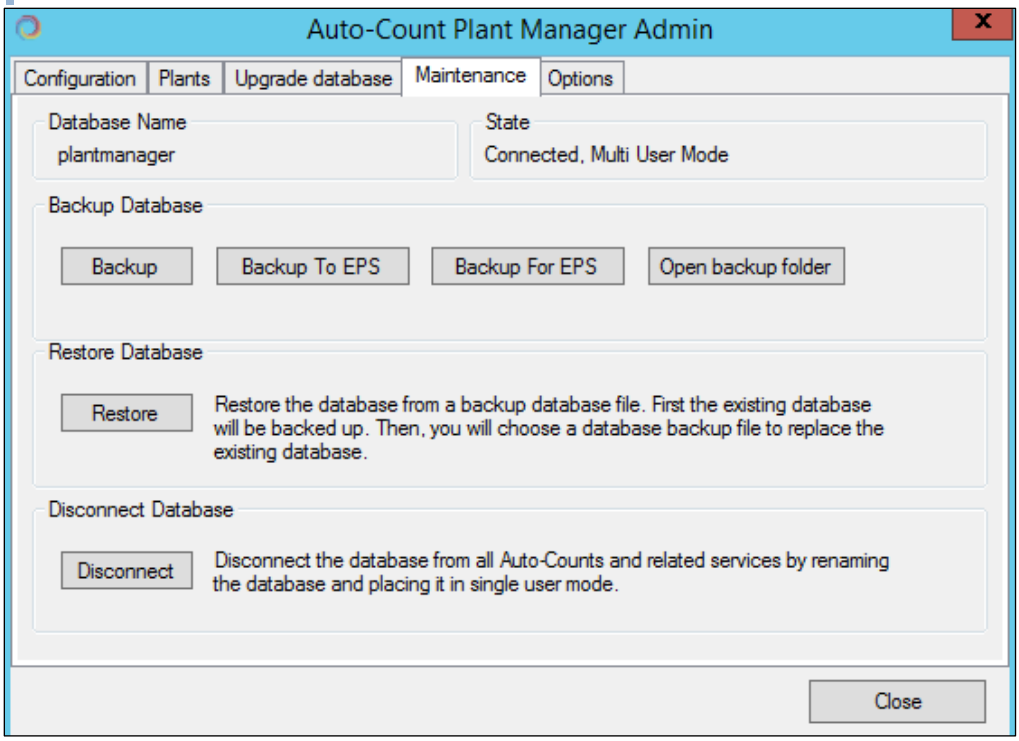
When using integrated (trusted) security, you must run the various services such as the Plant Manager Connector Service, Report Service, Web Service, Port Service, etc., with a trusted user instead of the local user account.



Maintenance

Within Plant Manager Admin, you can use the Maintenance page to backup, restore and disconnect your Plant Manager database. You can also upload your database to Support for troubleshooting. Functions that were cumbersome within SQL Server are now simple to perform.

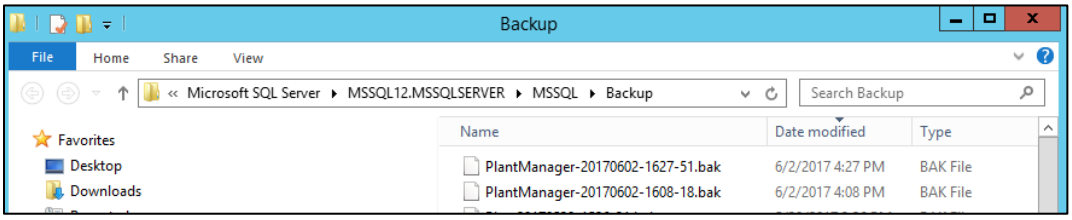
Note These functions were intended for use by System Administrators only.



Backup

This function is used to create a backup file of your current Plant Manager database. The naming convention is: [databasename}-{date}-{time}.bak.

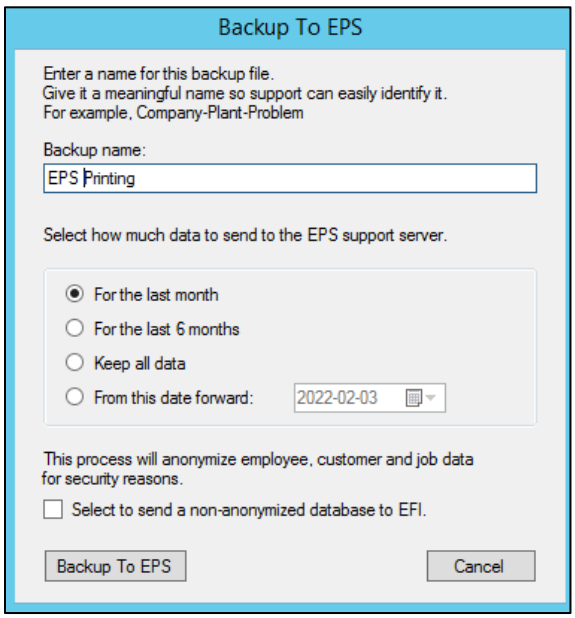
To easily access this file simply click **Open backup folder** to open the SQL Server Backup directory.



Tip! This is the easiest way to create a copy of your database to send to Support when needed.

Backup to EPS

Use this feature to create a backup copy of your database and have it sent automatically to an anonymous FTP site. From here a support representative can download your database for troubleshooting. The database will automatically be anonymized to protect your customer data but there is an option to send non-anonymized data.

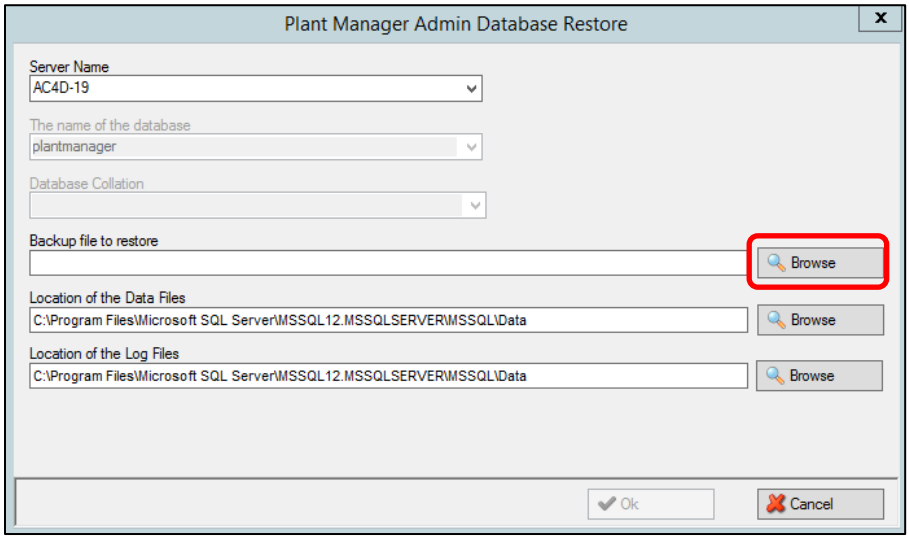


Back For EPS

Use this button to create an anonymized database backup file on your local machine which you can send to ePS Support for troubleshooting. Many customers can no longer use the anonymous FTP site (Backup to EPS) due to updated security policies, so we now ask that you use this button to grab your database and send it to Support. You may still use the Backup button to capture a non-anonymized database.

Restore Database

Use this tool to easily restore a database backup file to replace your existing database. This tool will always backup your current database first and then ask you to select a database file to restore.



Note Depending on the size of the database, it may take a few minutes to Restore. Do not close the window until you are told the Restore Is complete. If you install SQL Express and need to Restore a backup that is larger than 10GB, then you must first install the full version of SQL Server before you perform a database restore.

Disconnect Database

This feature is only typically used for moving a Plant Manager database from one server to another and you do not want any data written to the database. When you disconnect a database, no Auto-Counts or Services can access the database until it is reconnected again.

To move a database

1. Disconnect the Plant Manager database, (on the old server)
2. Backup the Plant Manager database. (on the old server)
3. On the new server, save a copy of the backup database file you just created and then install Plant Manager Admin. The installation will prompt you to choose a backup database file to use.

Note If you Disconnect and then shut down Plant Manager Admin, the database will automatically be re-connected. This is a function of SQL Server.

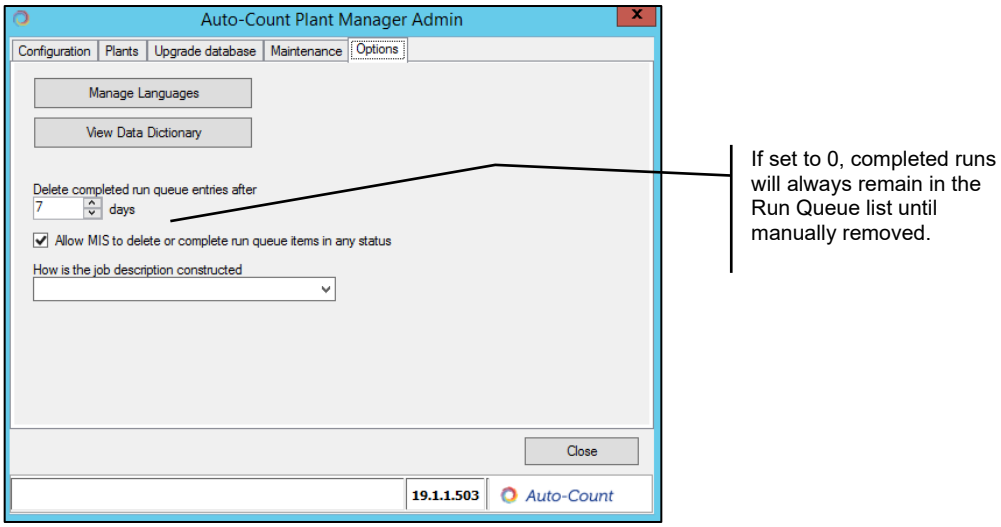
Options

For Plant Manager users, there are two settings on the Options tab of Plant Manager Admin which affects the Plant Manager Run Queue. The third option customizes the Job name display on the pallet ticket.

Delete closed runs after: Automatically remove completed runs from the Run Queue after 'x' number of days. The runs are not deleted from the database, but simply removed from the list. (Monarch users do not access the Plant Manager Run Queue.)

Allow MIS to delete or complete run queue items in any status: Allows the MIS to complete or delete a current run queue item which is in any status like suspended or in production.

How is the job description constructed: Select how a job description and job title are displayed on Pallet tickets. Choose to display both (Title – Description or Description – Title) or just one field.



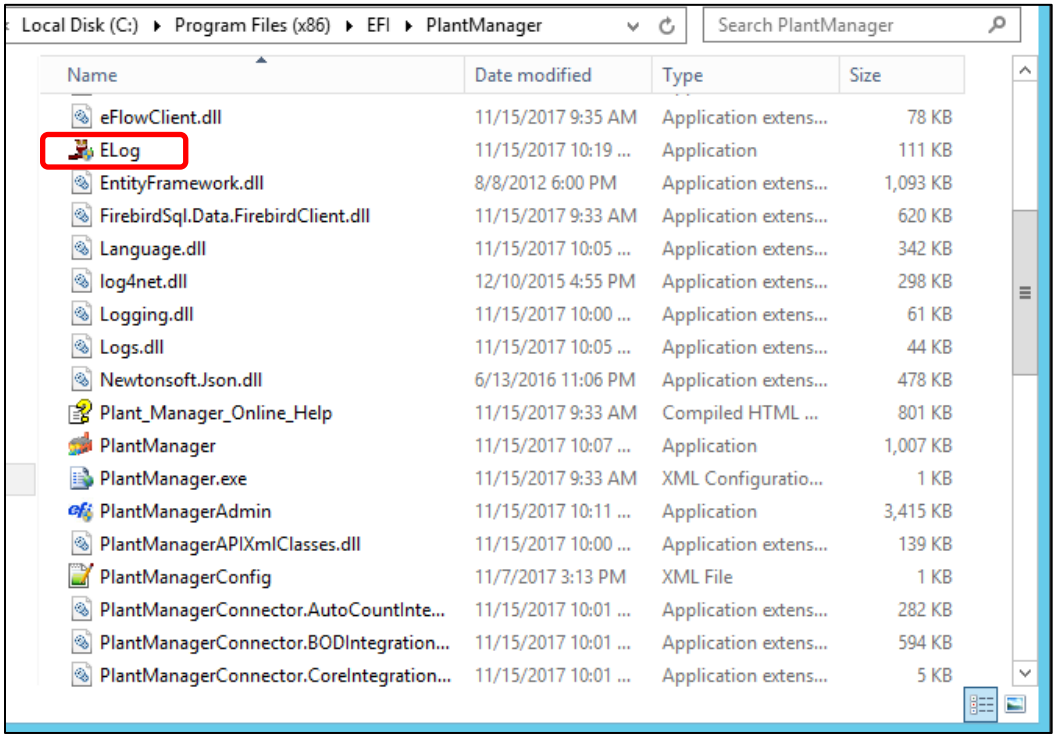
ELog

> **Note** You must have administrator rights to access ELog. This is a tool to be used only by the System Administrators.

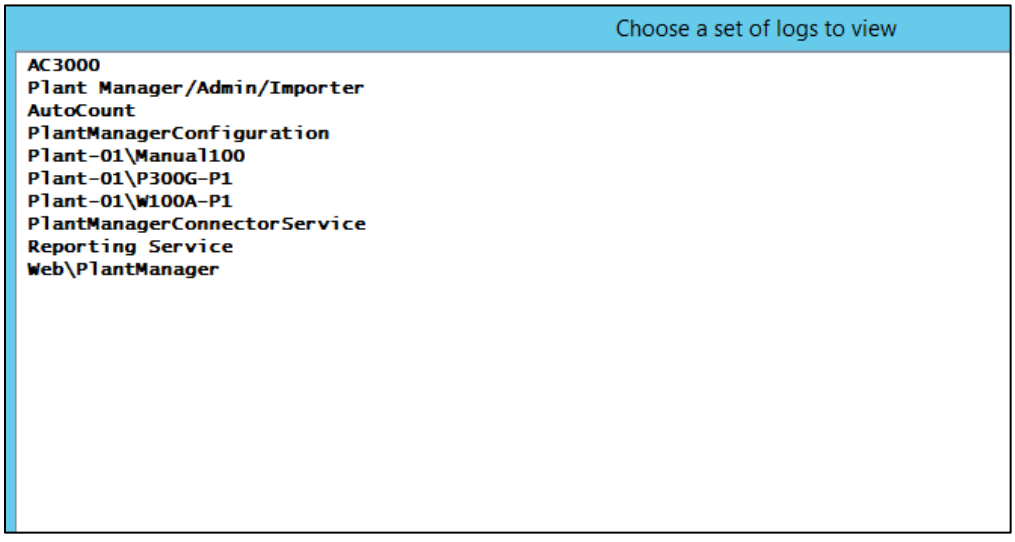
Another troubleshooting tool we have is called ELog. The ELog utility lists all Auto-Count logs which you can use to search for errors and other issues. This is useful when working with Support. It is also easy to upload this information to a secure FTP site for further troubleshooting by our Support team.

Using ELog

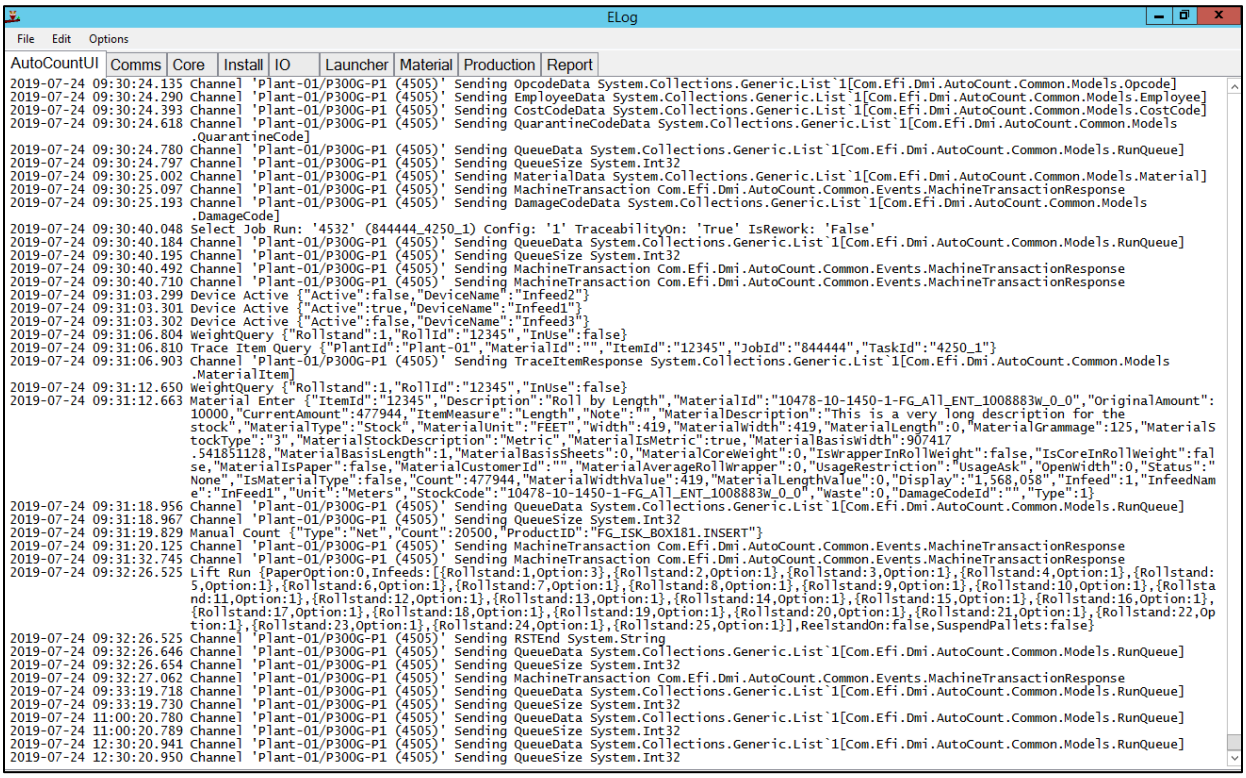
To open ELog navigate to the shortcut on the Start Menu or the desktop icon if one is available. You can also open ELog from C:\Program Files (x86)\EFI\PlantManager and run ELog.exe.



Then choose the set of logs you want to view.

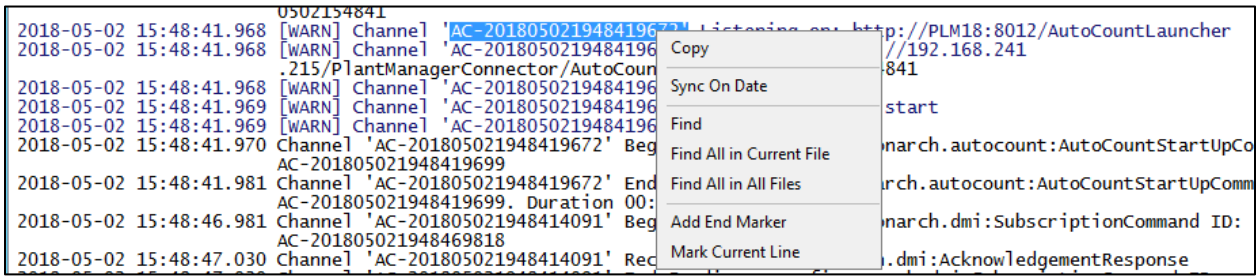


Here we chose a specific machine's log file but within ELog you can always change the log file by selecting **File > Change Log Directory** or click **Current Logs** at the bottom of the window.



Finding Items in Logs

There are tools to help you find items within or across logs.



Sync On Date: Synchronizes all of the logs based on the date. IT will highlight those dates in the logs.

Find / Find All in Current File: Based on the highlighted text, it will find other matches within this log file.

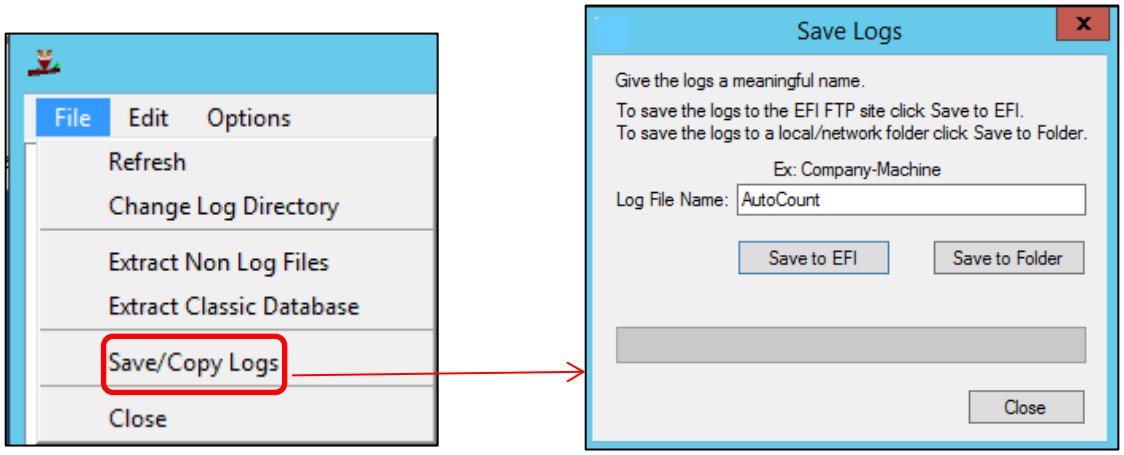
Find All in All Files: Will find all matches across all log files.

Add End Marker: Places a blue line at the end of the file. This is helpful when viewing Live log files and data is continuously added.

Mark Current Line: Select a line and choose this to add a blue line at this place in the log.

Copy Logs to Support

To copy your log files directly to a secure FTP site for Support simply select **File > Save/Copy Logs**. Then accept the default name or enter a more meaningful name, typically your company name and the machine name from which the file was generated.



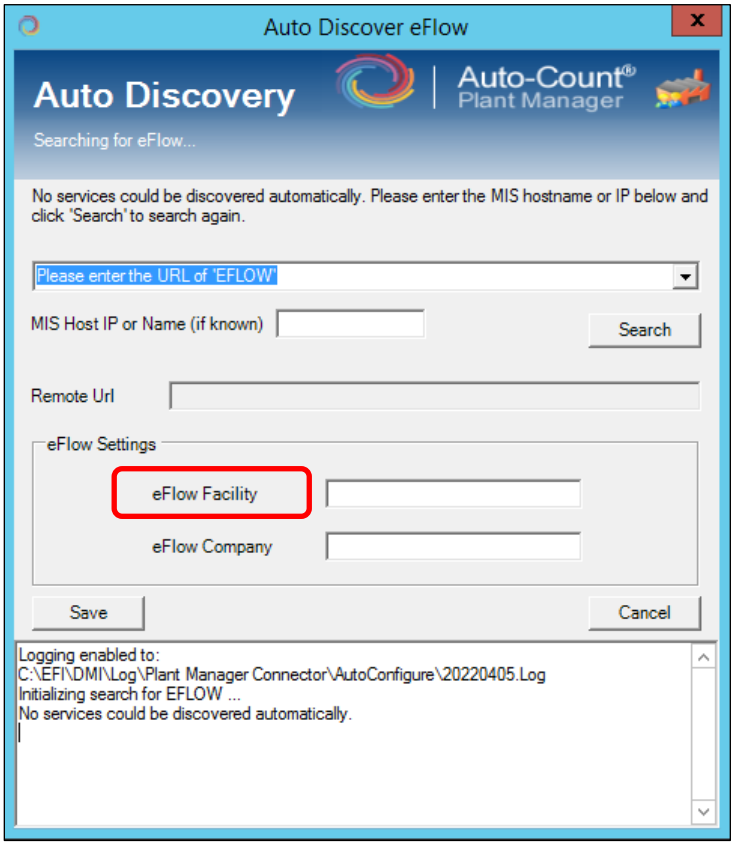
Save to EFI Use this option if you have an internet connection and want to directly send your logs to a secure (private) FTP site on a Support server. Support can then access your log. You must contact Support to inform them that you sent a file.

Save to Folder: If you do not have internet access from this computer, you can simply copy your zipped log file to the directory of your choice. Then send it to Support via e-mail or other means.

Appendix B: eFlow Facility ID in Autoconfigure

During the installation process you must run the Autoconfigure utility to configure the connection with eFlow which sets the MIS subscription. Part of this process involves setting the Facility ID. This is important for installing Auto-Count with eFlow communications and for troubleshooting any potential issues later.

Topics are used by eFlow to listen and send packets of data. When you run Autoconfigure.exe during the first installation, you set the Facility ID which will be used to create topic names.



Topic names are constructed using the Facility name first.

<Facility Name>.<Business Function>.< Root Element Name>.<Version>

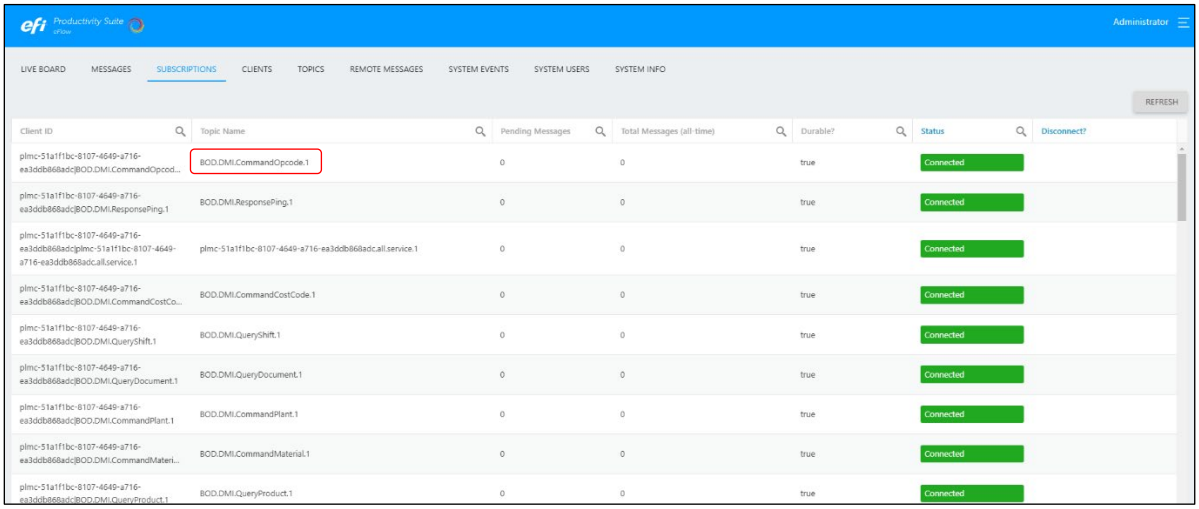
> Messages will always contain the Plant ID so you can still find Plant-specific content in the message.

If you do not enter an eFlow Facility ID (**not recommended!**), then the Plant ID is automatically used:

<Plant Name>.<Business Function>.< Root Element Name>.<Version>

Where do I find my eFlow Facility ID?

You can find your Facility ID in the topic names on the Subscriptions tab in eFlow. In the example below, the Facility name is BOD.



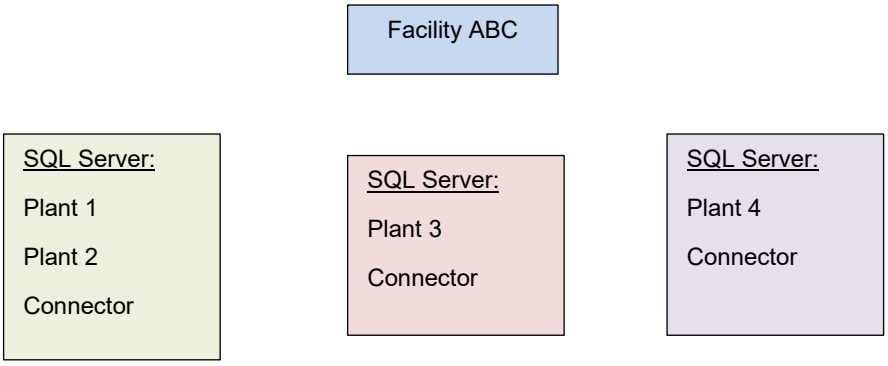
Why use Facility ID?

When you use Facility ID, the plant-level messages are all combined under a single set of topics. For example, the production order will contain information for all plants. When you do not use Facility ID, each plant sends messages using the plant ID, thus multiplying the number of topics being created. Instead of one production order topic, the MIS would have to listen for several production order topics – one from each plant. This could slow down the Connector!

Using a Facility ID also makes it easy to add plants because the MIS is listening to one set of topics and all new plants will simply send to that set of topics. Because of this we recommend using a facility ID rather plant ID to accommodate potential growth.

In the example below, we have a facility that contains four plants. Two are installed on one server, while the other two plants are on their own server. Each server has a Plant Manager Connector which processes the messages. If you enter the Facility ID of ABC when you install Auto-Count, then your set of topics will all start with *ABC* and contain information from Plants 1 -4. If you add a Plant 5, it will also send messages using the ABC facility ID.

If you did not set this site up using a Facility ID, then the number of messages leaving the PLM side will be the same, but they will be sent on a *single* topic set rather than creating a *topic set per plant*. The number of messages coming in might be increased because the MIS would need to send messages to each individual plant topic rather than to a single topic that all plants listen to. For example, Employees.



What happens if I re-run Autoconfigure and change the Facility ID?

Well, bad things could happen! The connector will start generating messages with an entirely new set of topics because each topic will use the new Facility ID. Unless you wanted to do this for some reason, you'd break the integration most likely. Autoconfigure (after v19.1.1.543) always remembers the Facility ID name that was last entered. So, unless you have a good reason, don't change it!

If you find yourself in this situation and must reset the Facility ID, call Support and ask for the eFlow Facility ID Support Note which contains instructions for resetting the Facility ID.

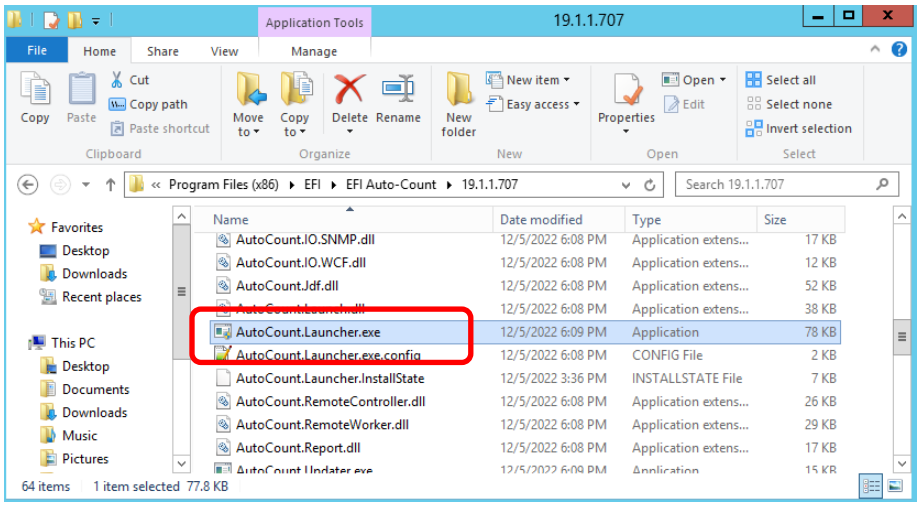
Appendix C: Remove AC4D Machines

If you do not properly remove unused AC4D instances, then messages may still accumulate for these obsolete machines and cause network overload.

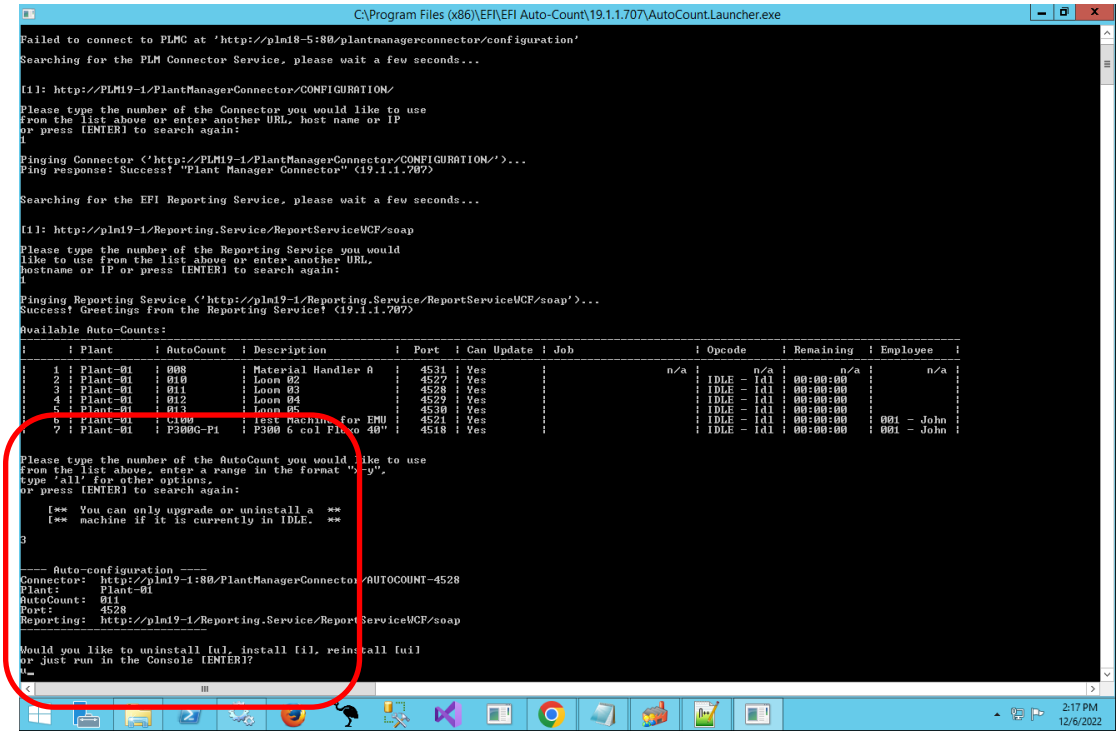
> **Note** Packing, Rework, and Weigh stations are not AC4D machine instances. You can make them inactive in Plant Manager.

To properly remove an AC4D machine/instance

1. Navigate to **C:\Program Files (x86) \EFI\ EFI Auto-Count\ [***version folder***]** and run AutoCountLauncher.exe.



2. Follow the prompts to choose the correct connector and reporting service. Then choose the AC4D machine you want to uninstall. Type ‘u’ to uninstall. In this example we chose machine ‘3’ to uninstall.



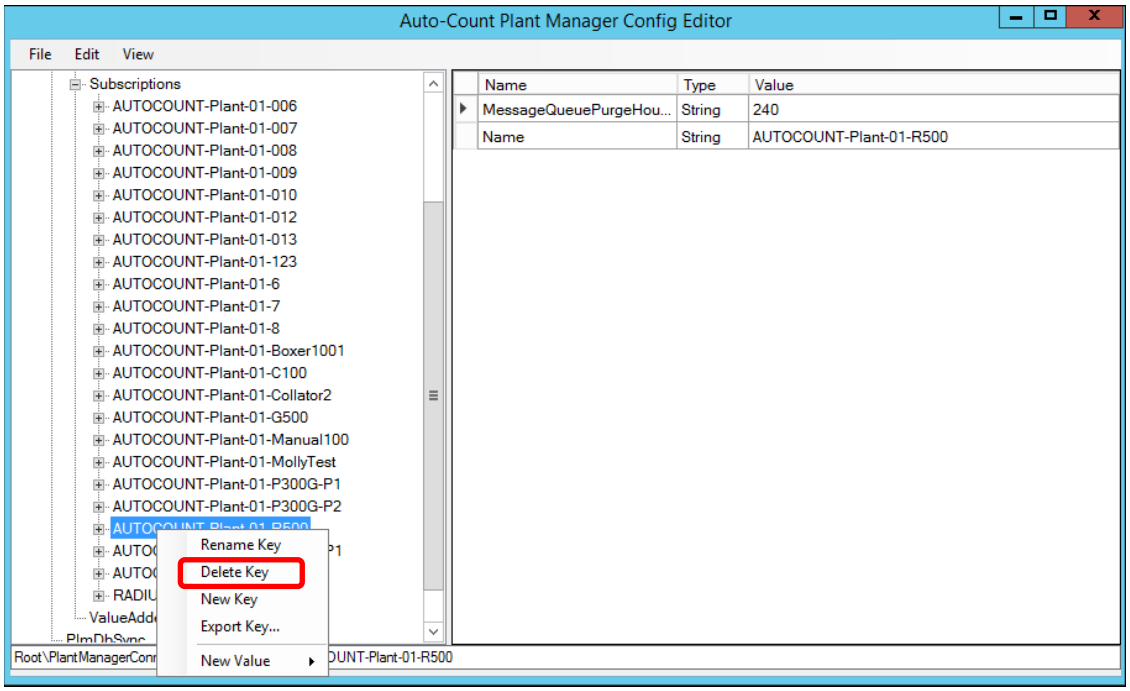
Follow the prompts to close this window.

3. Manually unsubscribe this instance. You may not need to do this if you properly removed it using steps 1-2 above. For machines that are inactive in Plant Manager you can remove their subscriptions from the Plant Manager Config Editor using these steps.

   Open PlmConfigEd utility. (C:\Program Files (x86)\EFI\PlantManager\PlmConfigEd.exe)

   Navigate to **Root > PlantManagerConnector > Subscriptions**

   Select the AC4D machine subscription and right-click to open the context menu and select **Delete Key**.

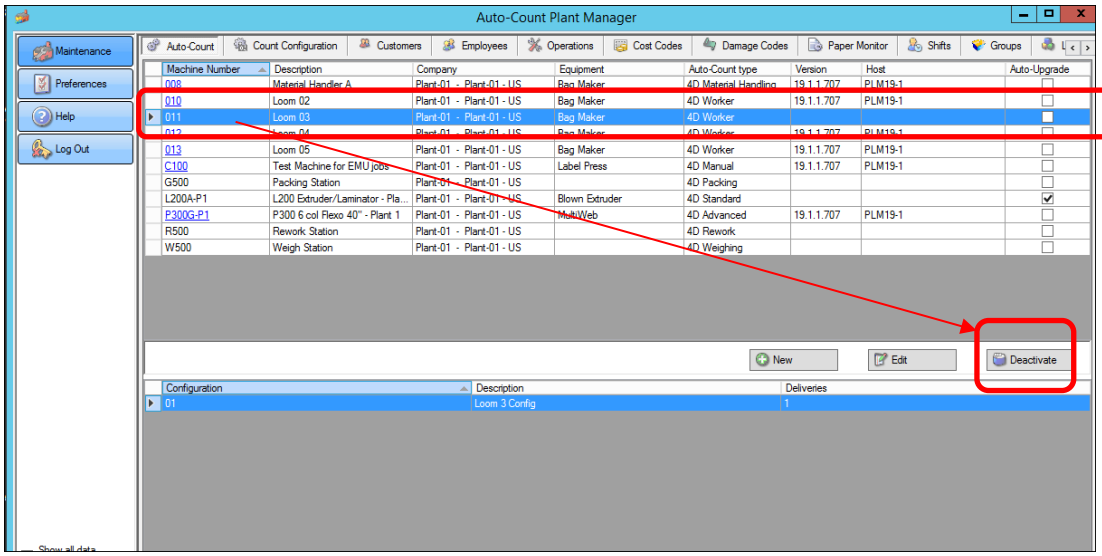


4. Run the following SQL script to clear out pending messages for obsolete Auto-Counts:

```
DECLARE @Plant VARCHAR(63) SET @Plant = (SELECT PlantNumber FROM Plant WHERE IsActive=1)
CREATE TABLE AutoCountTemp (AutoCountIDTemp INT, PlantTemp VarChar(63), AutoCountNumberTemp V
arChar(63))
INSERT INTO AutoCountTemp
SELECT Autocountid, 'AUTOCOUNT-'+@Plant+'-
', AutocountNumber FROM AutoCount WHERE IsActive=0 AND AutoCountId >0
UPDATE AutoCount SET Host='', Version='' WHERE AutoCountId IN (Select AutoCountIDTemp FROM Au
toCountTemp)
DELETE FROM AutoCountCommand WHERE AutoCountId IN (Select AutocountIDTemp FROM AutoCountTemp)
DELETE FROM ConnectorInQueue WHERE CommsChannel IN ( Select PlantTemp + AutoCountNumberTemp F
ROM AutoCountTemp)
DELETE FROM ConnectorOutQueue WHERE CommsChannel IN ( Select PlantTemp + AutoCountNumberTemp
FROM AutoCountTemp)
DROP TABLE AutoCountTemp
```

7. Restart the PLM Connector Service.
8. Remove the machine from any machine groups in Plant Manager.

9. In Plant Manager, deactivate this AC4D machine and it's configurations if you haven't done so before.



Appendix D: Troubleshooting

Plant Manager Admin SQL Login Issue

Problem: You launch Plant Manager Admin and the error says **Current SQL user "guest" does not have the "sysadmin" Server Role**.

Cause: Improperly configured SQL login settings.

Resolution:

1. Ensure the Windows user which is logging into Plant Manager Admin has an SQL login with the sysadmin server role on the SQL Server. This is critical for database creation and management tasks during installation and recovery. If necessary, log in to SQL with the SA (System administrator) and create a new SQL login for this user and assign the sysadmin server role. This will allow the user to log into Plant Manager Admin.
2. Review the *Requirements Guide* to ensure that you have installed SQL with the proper settings.

Missing Languages

Problem: The Plant Manager Web application (localhost:5000/PlantManagerWeb) failed to load, as it was unable to retrieve language and translation data from the backend. The database table "LanguageInfo" was empty, indicating that language files were either not installed or had been removed.

Cause: The language files, which should have been imported into the database during the installation process, were missing. This could have resulted from an incomplete installation or manual removal of the language data post-installation.

Resolution:

The language files were in the directory C:\ProgramData\DMI\PlantManager\Translated. These files were copied to the C:\ProgramData\DMI\PlantManager\Translate directory, as would have occurred during a standard installation.

Plant Manager Admin was restarted, which triggered the re-import of the language files into the database, populating the "LanguageInfo" table.

After refreshing the Plant Manager Web application, it loaded successfully, confirming the resolution.