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MDM

CIMCO MDM
Setup and configuration guide

Updated: 04/06/2018

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The purpose of this document

This document is designed to familiarize CIMCO Resellers with the features of CIMCO MDM - CIMCO's solution for Manufacturing Data Management. There is often discretion involved in the steps described, it is not a cookie cutter solution to configure MDM for an individual customer. MDM is a flexible and powerful system and as a result no two installs will be the same. The goal of this document is to provide you with a working level of information required to install, manage, and maintain a CIMCO MDM Installation. Once you have installations established your knowledge will expand rapidly and many of the features described here will become second nature to you. Until then, you can use this guide as a reference to help you answer many common configuration questions.

Preparing for the Install – gathering customer requirements

CIMCO MDM provides a highly customizable interface. There is a good chance that your customer has a specific reason they are interested in MDM. Start there and ask lots of questions to find out where the pain points, bottlenecks and areas of greatest need are.

Some common reasons that people will want MDM include the following (in no particular order):

- Assist with ISO or other compliance issues.
- Track changes to their documents.
- Avoid incorrect files being used in production (resulting in scrapped parts/re-work).
- Implement paperless manufacturing.
- Provide access to all required production information where it is needed.
- Automation of processes.
- Reduction of duplicate entry.

The steps described in this document are intended to advise you on how things are done to build out an MDM system. Once you know and understand what they do, you will be much more prepared to customize a system to your customer's needs.

Devising levels

In the Appendix section there is a section about enabling demo mode (Demo Mode, page 112). This gives a few examples of how some organizations might want CIMCO MDM organized. This is often determined by personal preference or the type of company. For example, a contract manufacturer may wish to have their top level be Customer or Part number. A manufacturer may want to have it organized by product group. The level structure is less critical with MDM because its search options are very robust and you can quickly find what you need based on diverse criteria. Search options can be configured in the client configuration.

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Installing CIMCO MDM

1. Hardware Requirements

You can find the latest hardware requirements at any time on the CIMCO website at http://www.cimco.com/support/system-requirements/

For optimal performance CIMCO strongly recommends using physical machines and Solid-State Drives when possible. Virtual machines can be difficult to tune for performance especially when custom databases such as Microsoft SQL are utilized.

2. Server Installation

2.1. Dependencies/Prerequisites

CIMCO MDM requires the following products to be installed on the server in order to function properly in most cases:

1. CIMCO DNC-Max (Mandatory for Serial, FANUC FOCAS, Heidenhain based, strongly recommended for all) *
2. CIMCO Database Server (NC-Base Server)

Optional Components

3. CIMCO Edit (strongly recommended at a 1 to 1 ratio with MDM clients)
4. CIMCO Software Manager
5. CIMCO MDC-Max

Third Party Components

6. Adobe Acrobat Reader (For PDF preview, particularly on servers where the browser plugin is not likely to work)

Install and configure any prerequisite products prior to installing MDM and make sure the relevant CNC machines/ports are added to CIMCO DNC-Max.

The following steps assume you have a functional DNC-Max system and that CIMCO Database Server is running. On our demo PC the NC-Base and MDC demo data were also loaded. You may notice that there is user data and custom fields in some of the screenshots in this document. This is the demo data showing. You can request the latest demo platform information by emailing support@cimco.com and requesting the latest demo build of MDC, etc.

* It is possible to transfer data to some network CNC machines directly using only CIMCO MDM without DNC Max.

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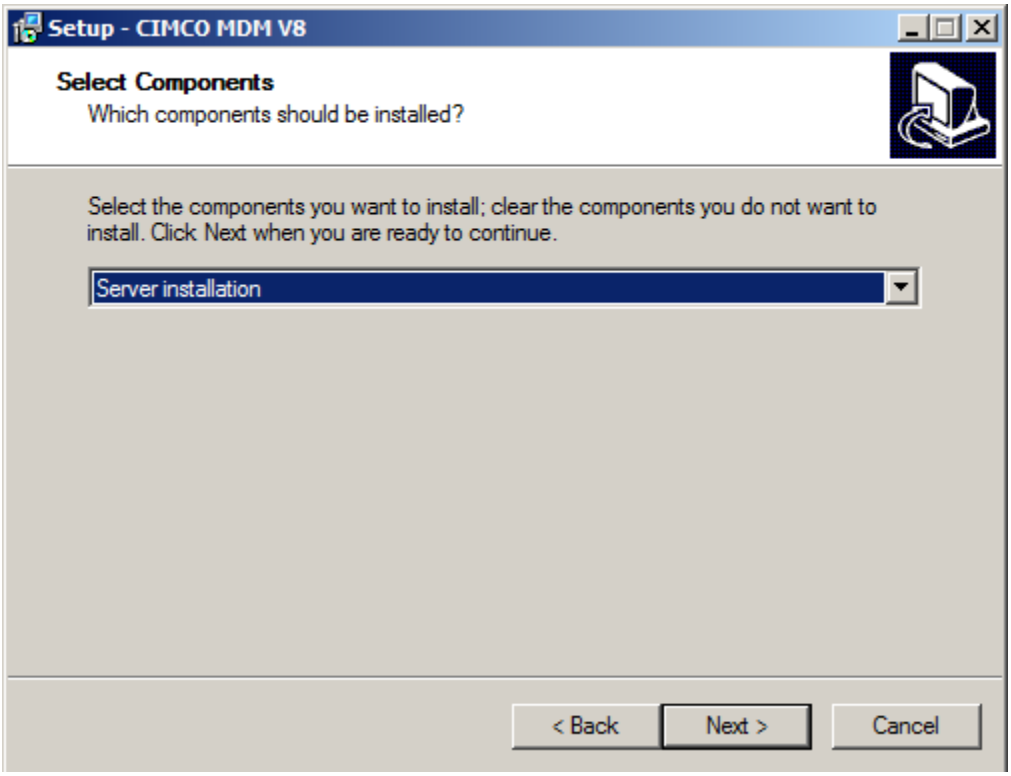
2.2. Installing on your server

Installing CIMCO MDM on your server is straight forward. Download the latest version of MDM and run the executable on the server, choose your appropriate localized language, and under Components choose **Server installation** with all defaults unless you have a special path where you want to store your CIMCO programs. The **Server installation** also includes the CIMCO MDM Client.



2.3. Installing and configuring the CIMCO MDM Service

Once the installation finishes the **CIMCO MDM Server dialog** will automatically open (cambaserv.exe in the MDM folder). In the CIMCO MDM Server dialog you must install the service using the desired database (see screenshot below). Some customers may use an MSSQL database, and this is where you will specify that database. For this installation we will use the **CIMCO Database V8** with the defaults set for the User and Password. Click **Install Service** and once the Service is installed, click the button **Start Server** which will allow you to start and configure the MDM Server Service under Windows Services.

Please note: CIMCO Database Server (NC Base Server) is the preferred database for CIMCO MDM.

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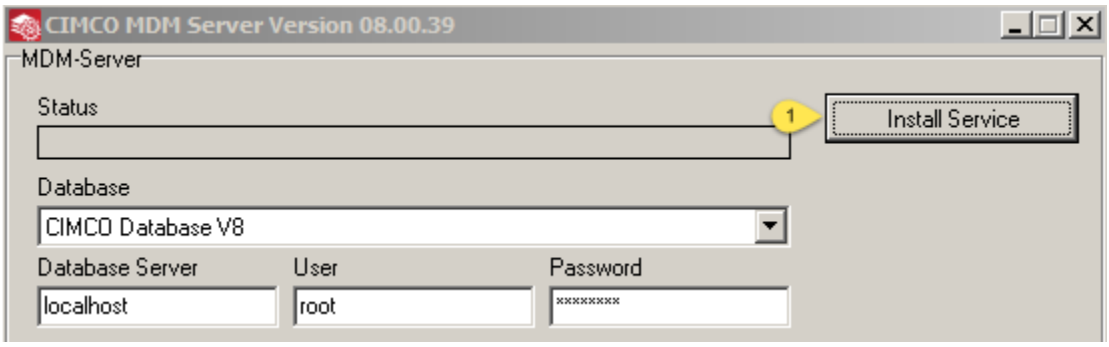
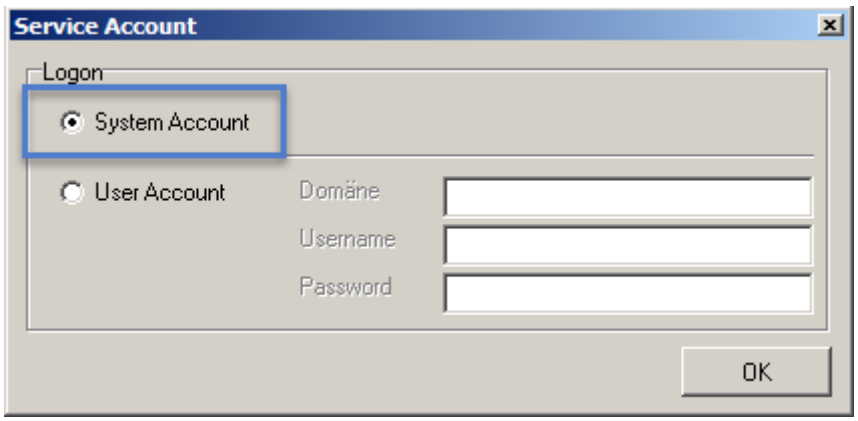
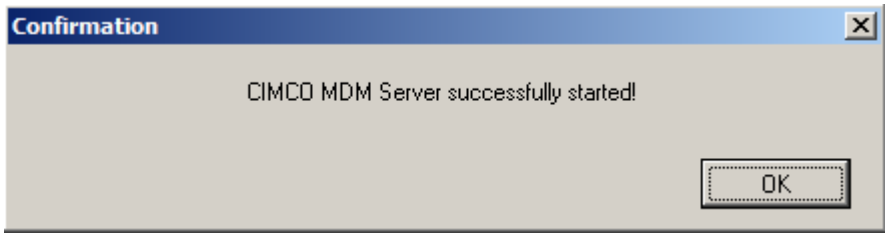


In the next screen you have the option to change the account that will be used by the service. This can be important if the MDM service will need to access files on network shares. So if your base directory is on a network be sure to have the credentials ready to provide **Full Control** permissions to that folder. In our example we are running the MDM service on the local server so we will select the **System Account**.

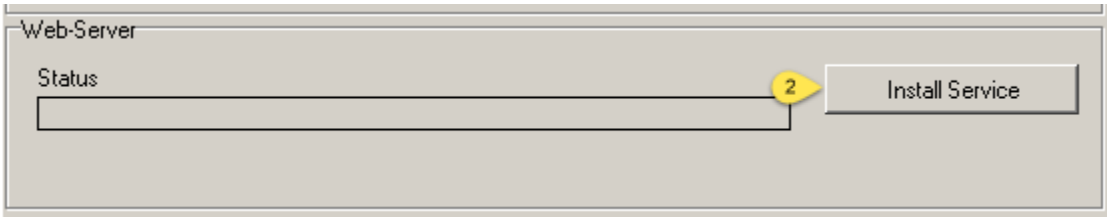


Click the **OK button** to configure and start the CIMCO MDM Server. If all goes well, you should see the following dialog.



2.4. Installing the CIMCO MDM Web Service

If your customer has licensed CIMCO MDM Web Clients, you will use the same interface to install that service. Under **Web-Server**, click the **Install Service** button and then the **Start Server** button.



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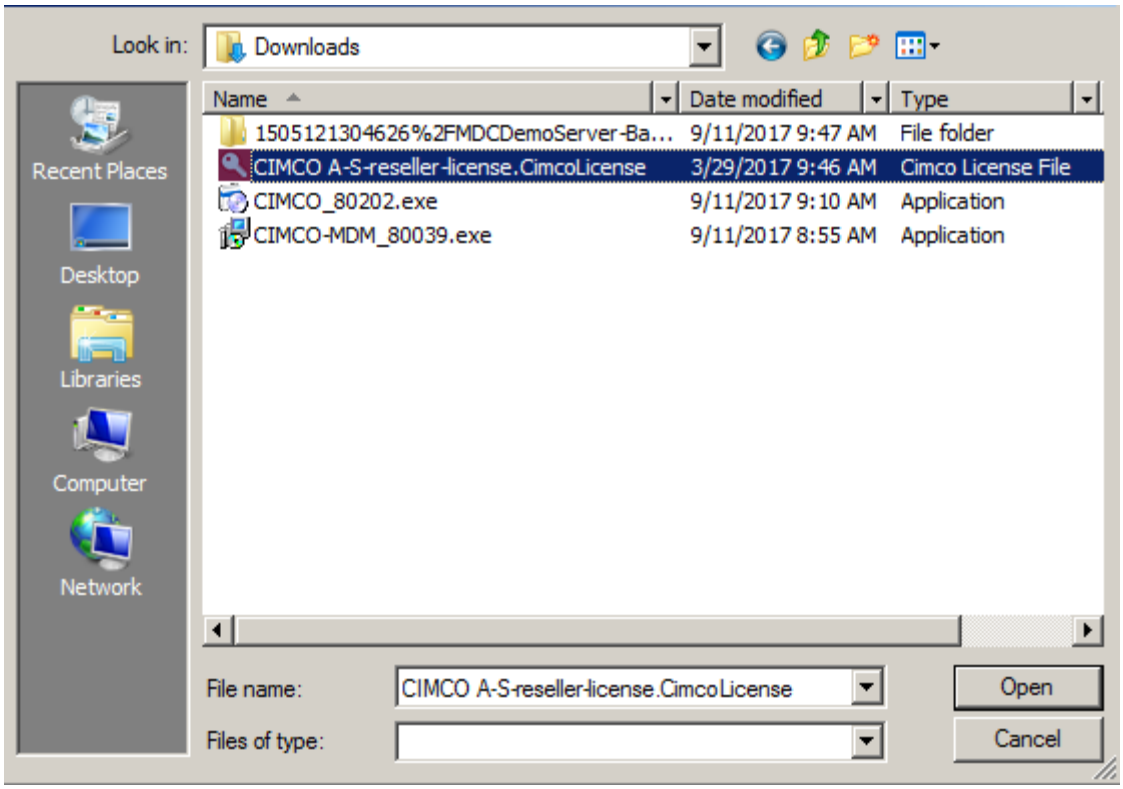
You can confirm that the MDM Web Client is working by opening a web browser and entering the URL **http://<hostname or IP address>:8888** - in our example it is **http://localhost:8888**.

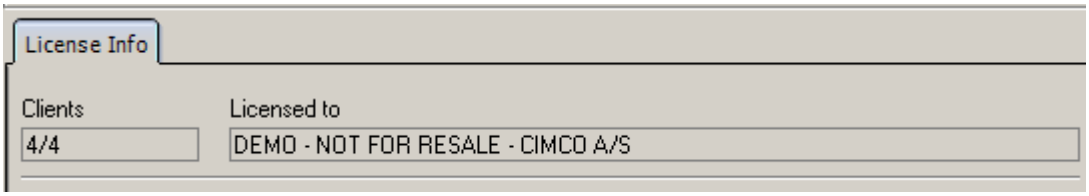
2.5. Installing your key file

Currently CIMCO MDM uses its own license server independent of the CIMCO Software Manager/License Server. At the bottom of the CIMCO MDM Server dialog you can select and install your license. Click the **Select License** button. If you do not have a license, MDM can be run for 30 days in trial mode.

Locate the license, select it and click the **Open** button.



Once the license file is opened and installed the license information will display under License Info and clients can begin checking out licenses as needed.



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Some sample log entries look like this:

> 11/09/17 13:46:45 License Logon: CIMCODEMOSRV4764
> 11/09/17 14:03:32 Reloading..: 0
> 11/09/17 14:03:32 Loading Scan Folders
> 11/09/17 14:03:32 Reloading Configuration.. Machinegroups
> 11/09/17 14:04:00 Client CIMCODEMOSRV4764 disconnected!Active Clients:0

You can see in this example that the local server has checked an MDM client out and back in.

3. Opening the MDM Client

Since the server already includes the MDM Client you can now try to open it for the first time. Locate and **run the MDM Client** (CIMCO-MDM.exe in the MDM folder) and **log in as Admin**. Testing on the server is an essential step before moving on to client machines. If you are able to log in and access the MDM Client on the server you are ready to move on to the next steps.

Please note: All the MDM Client settings are stored in one file located at \MDM\cfg\settings.ini. If you experience issues with any client PCs, replacing that file with a file from someone with a similar role can be a good way to see if the configuration has been changed/broken.

Also, it is possible to run the CIMCO MDM Client directly off a network share if required.

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Configuring Levels

Levels in CIMCO MDM govern the way data is organized. Before jumping in to setting up the levels you need to have a solid understanding of the customer requirements. The top level, once set, is difficult to change, so keep this in mind when considering your customer's needs.

1. Example Cases

Here are some example customer cases to consider.

1.1. Case 1 - The large manufacturer

Most large manufacturers have very strict part numbers and they usually prefer a level organization that uses these part numbers as the main organizing or top level. Their entire MDM setup is keyed off this part number top level. Subsequent levels accommodate all of the production data they have in the format that makes the most sense for them such as the following.

Top level Part Number
Second level OP#
Third level Machine Group
NC-File
Setup Sheet
Tool List

1.2. Case 2 - The small Job Shop

A small job shop has some interesting challenges. They might have parts for several companies that could conceivably have the same part numbers or no part numbers at all and they need to assign their own. A typical small job shop would possibly prefer to use their customer as the top level like this.

Top level Customer
Second level Drawing
Third level NC-File
Setup Sheet
Tool List

Always remember that MDM is very flexible to a point, if you can nail down the top level that makes the most sense the remaining levels can evolve to fit a customer's initial and growing needs over time.

2. Create new document level

To create a new document level access open the **Database Configuration dialog** and select **Level Settings** in the treeview menu.

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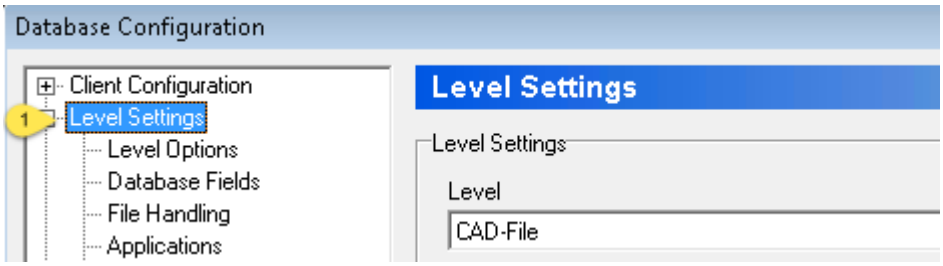
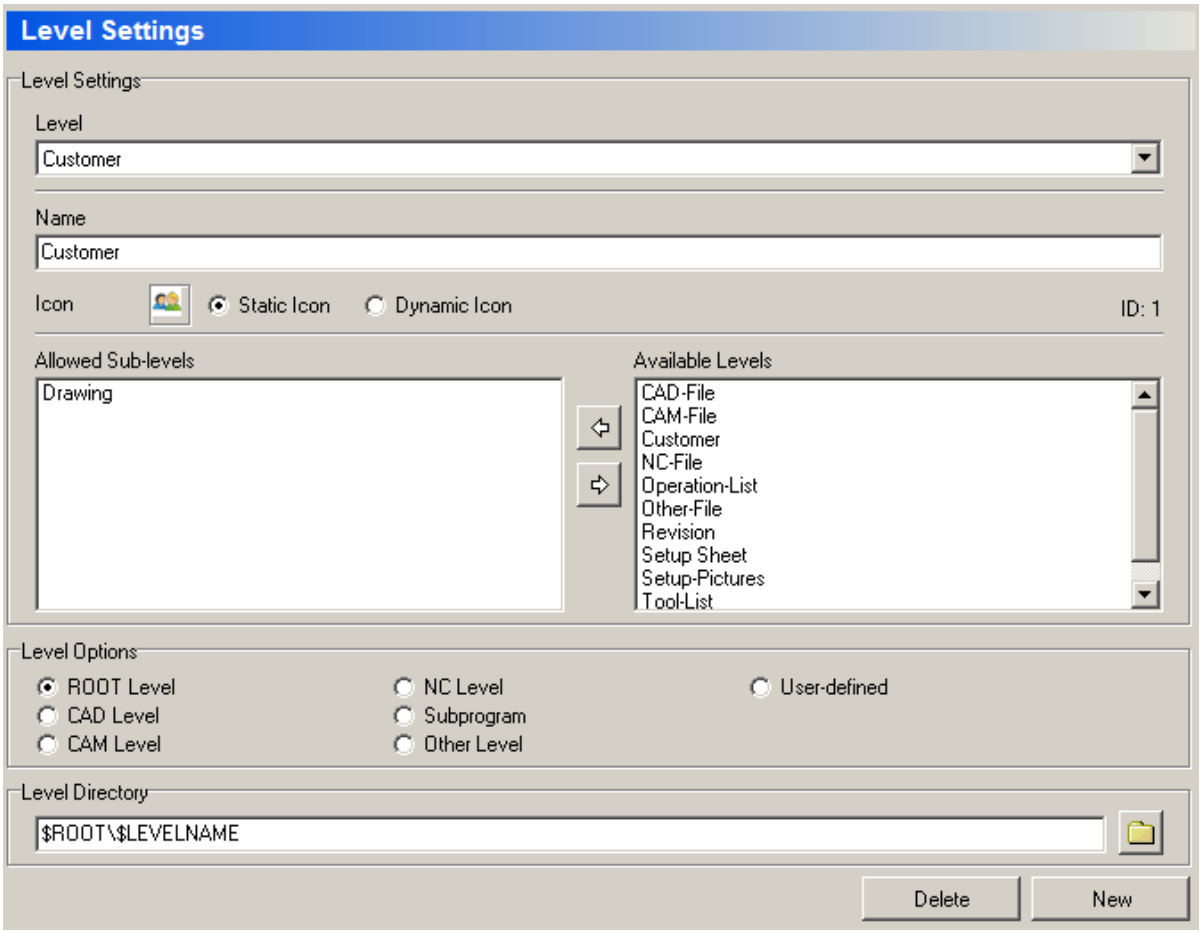


Start with your top or ROOT Level. In our example case with the small job shop our top level is Customer. If the Customer level did not already exist, we would have to click the **New button** and then configure the new level. In our example the only allowed sub level is Drawing. You will also see that the level is defined as the **ROOT Level** under **Level Options**.



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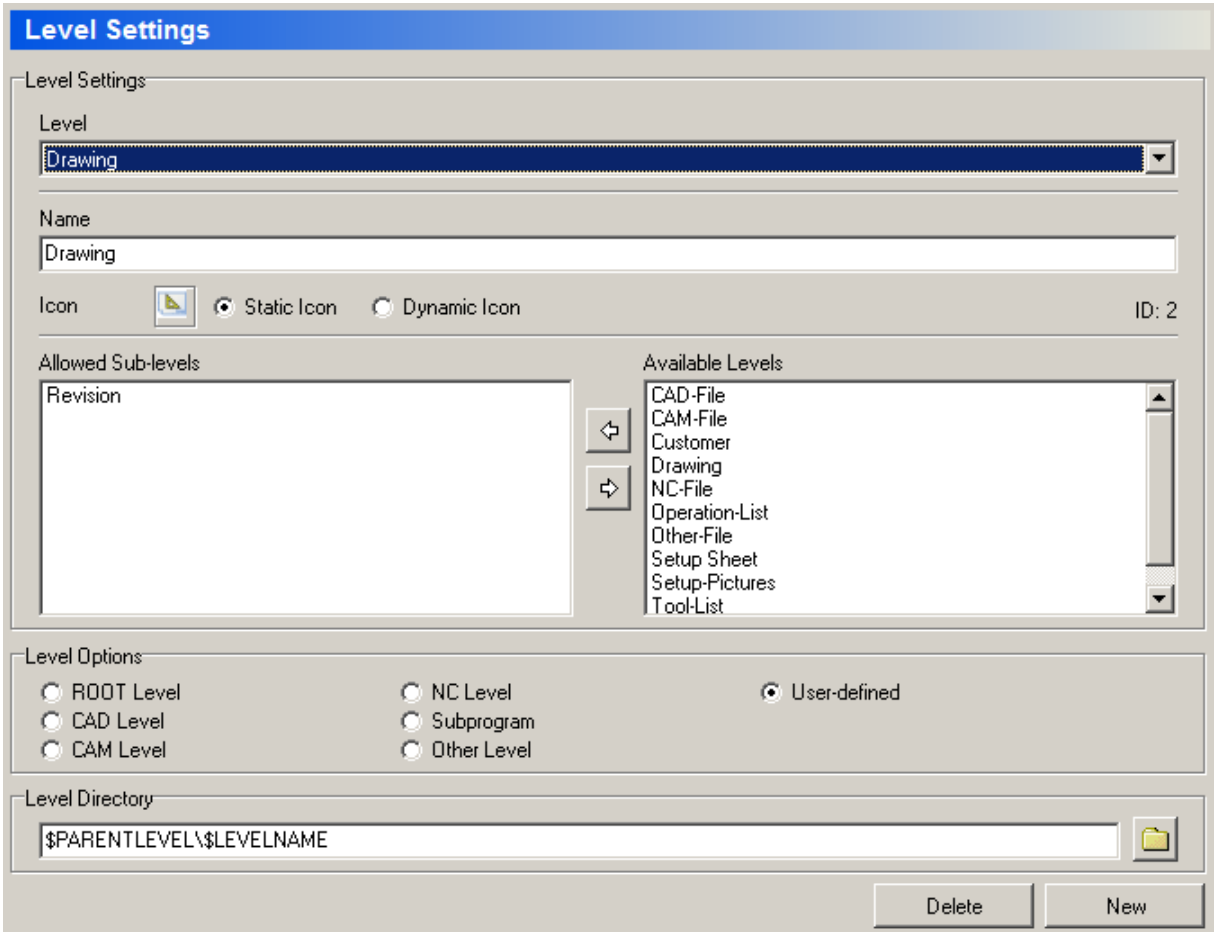
3. Create new folder level

Next we will set up the **Drawing level**. This is just a folder level which means it is only intended to contain sub-levels (sub folders) and no documents. Unlike the ROOT level, the Drawing level has **User-defined** enabled and allows only the Revision sub-level:



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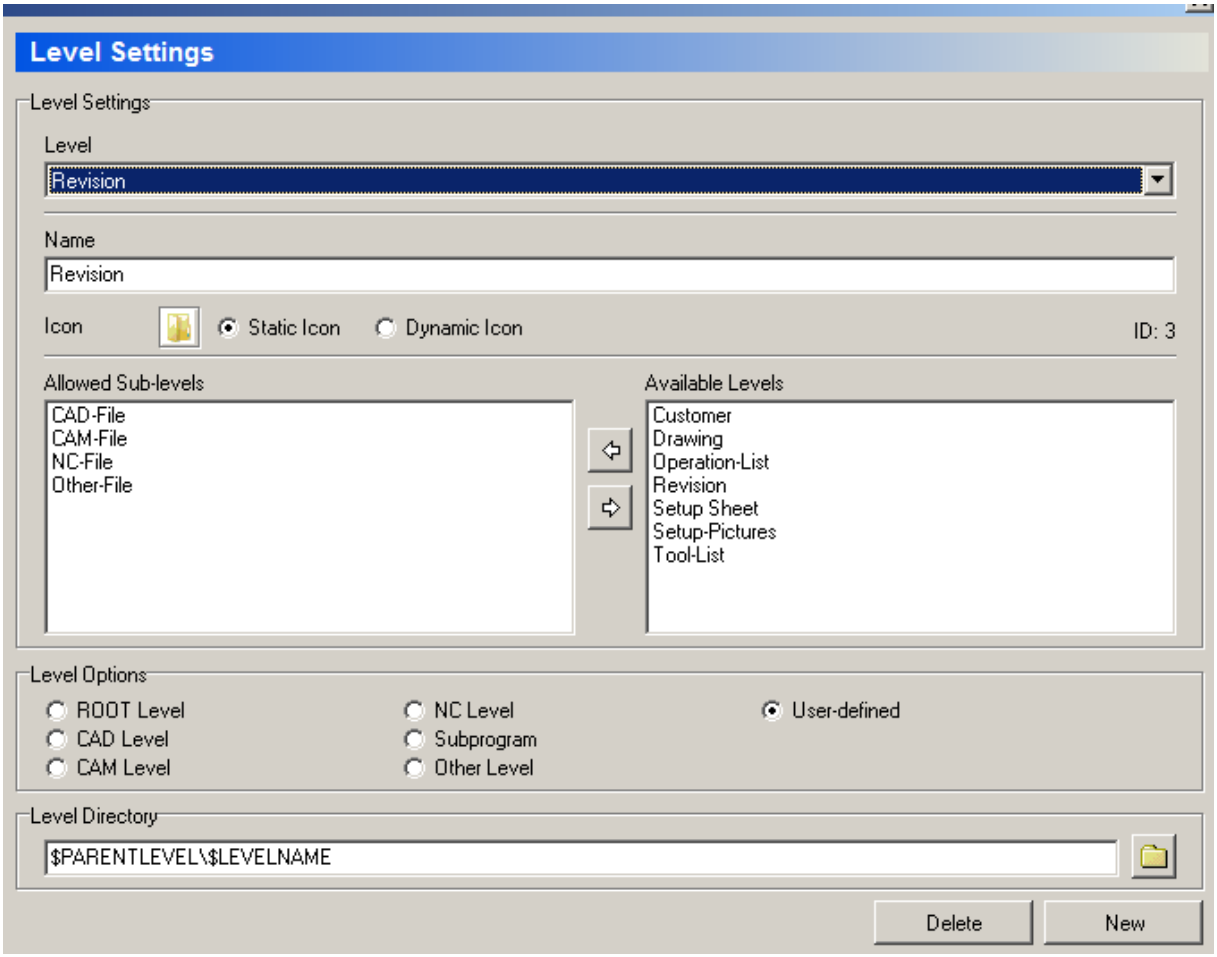
Our next level, revision, is much more diverse allowing for CAD files, CAM files, NC files and Other files all located within the $PARENTLEVEL (Drawing)\ $LEVELNAME (Revision).



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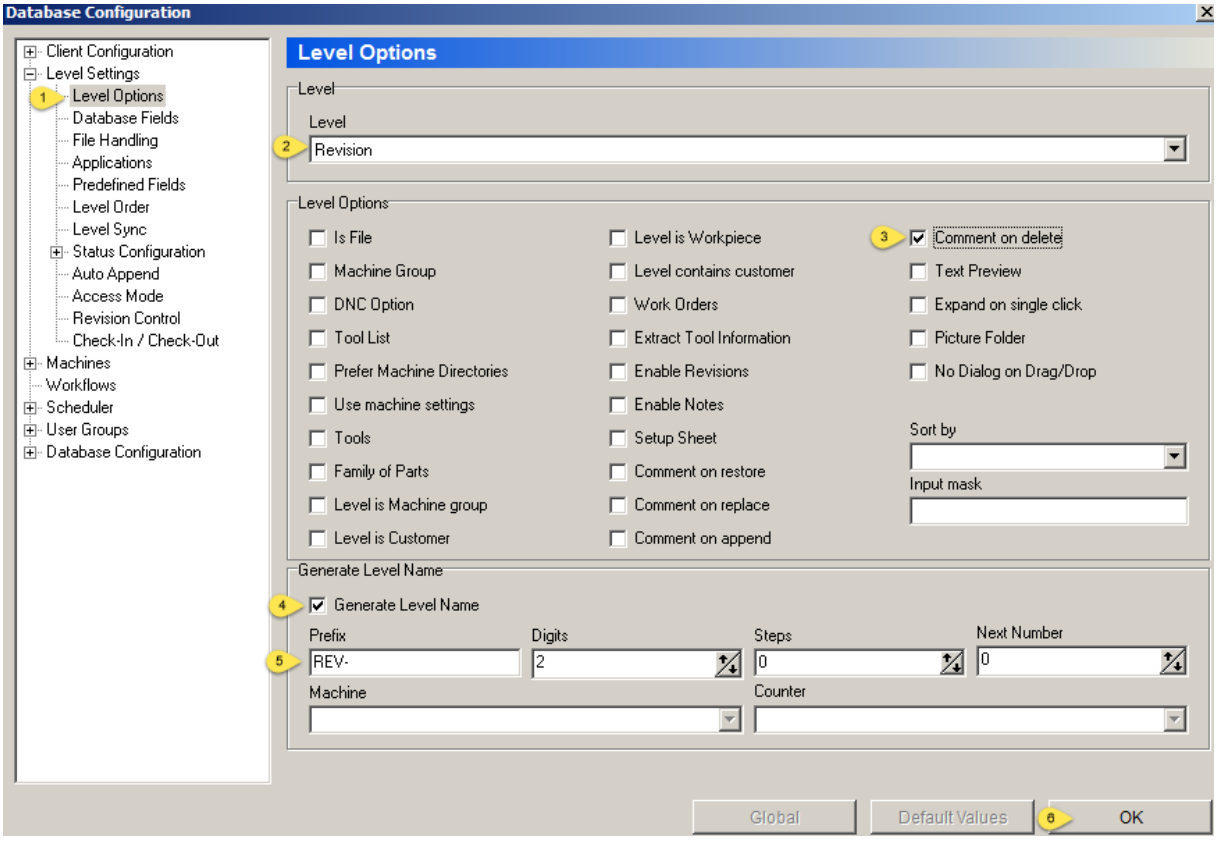
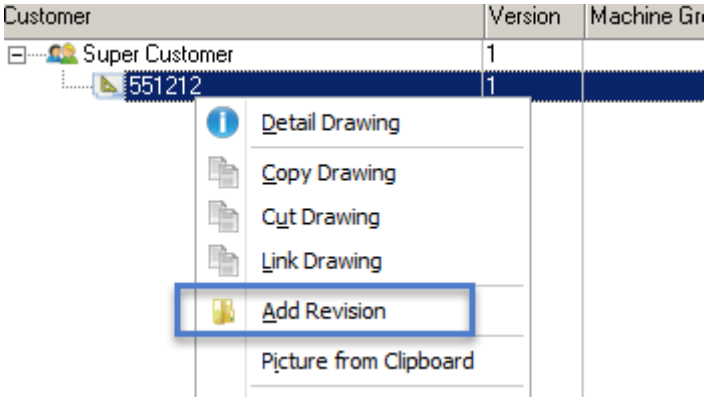
4. Generate levelname

For our example we will use a numbered revision format that is 01-99 and to simplify adding new revisions we will make some changes to **Level Options** for the **Revision level** including adding a comment on deletion and automatically generating a **REV-##** level name.

In the **Database Configuration dialog**, select **Level Options** in the treeview menu. From the **Level dropdown**, select **Revision** and follow the steps 1-6 as shown in the following screenshot.



Click the **OK button** to save and close the configuration dialog. Click the **Add button** in the topmenu to add a new Customer. Add a Drawing level by right-clicking the customer and selecting **Add Drawing**. Finally, right-click the Drawing level and select **Add Revision**.



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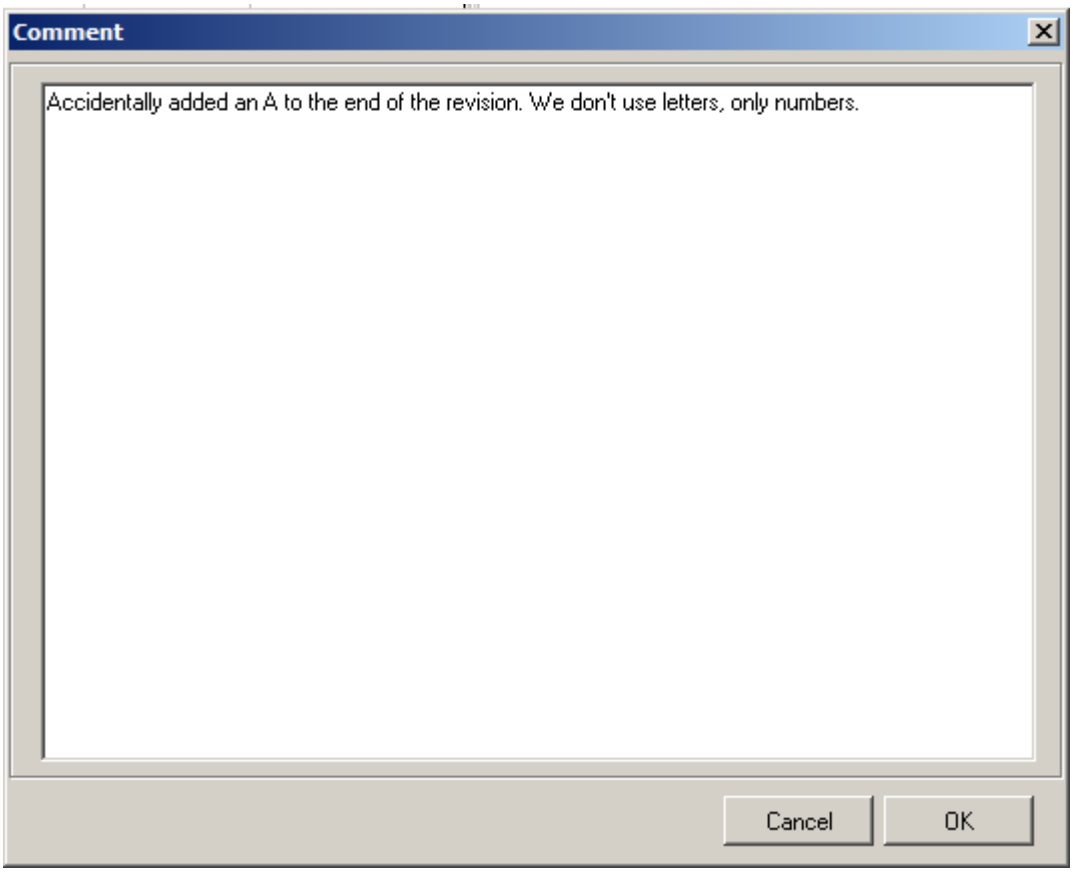
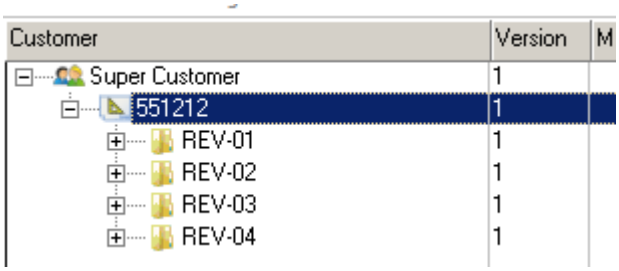
MDM automatically adds the first revision (REV-01) when the Drawing level is added. In case the revision has to be deleted, MDM will prompt the user for a comment.

When we go to delete it, we get prompted to add a comment.



Using this method, we can quickly add auto-incremented revisions as shown in the following screenshot where REV-01 - REV-04 is added.



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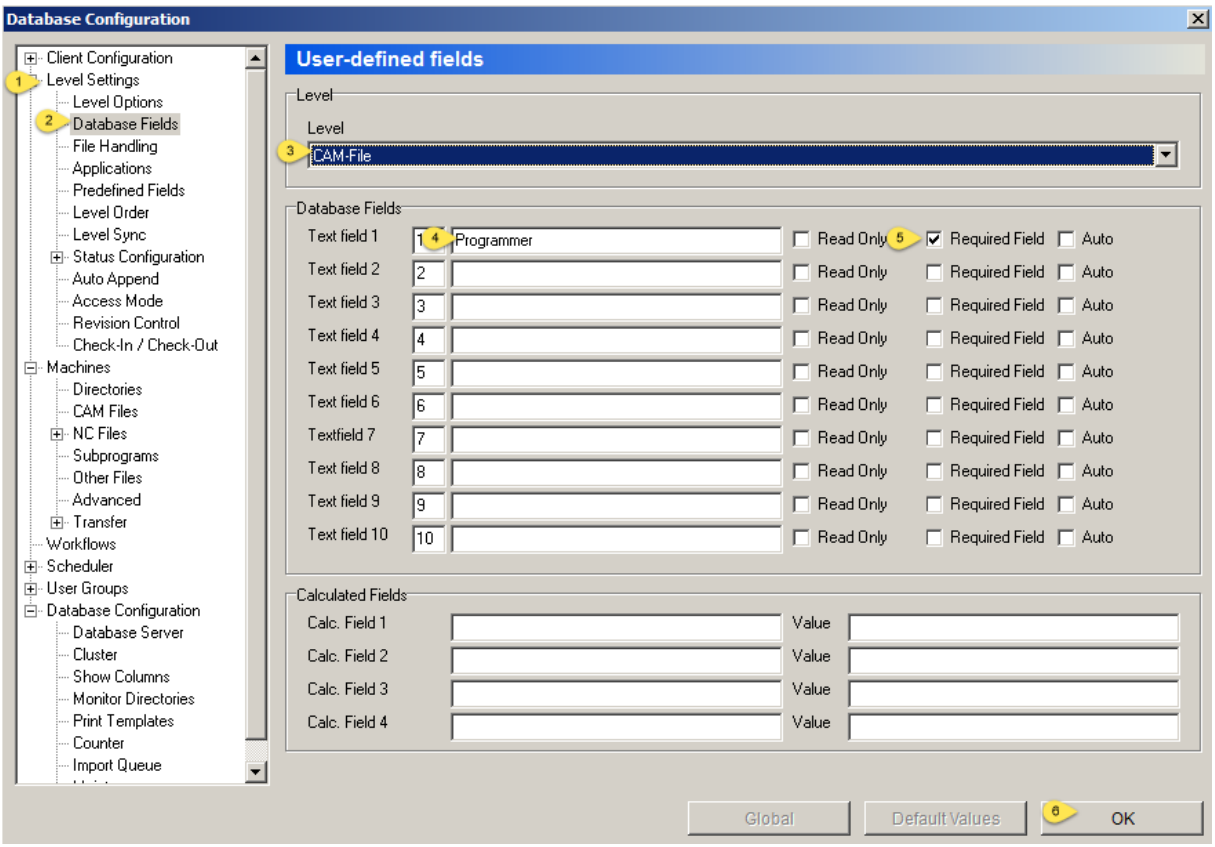
5. Database Fields

Database Fields are used to allow customer defined variables to be included and utilized in the CIMCO MDM database. MDM also gives you control over how these fields should be handled when used. To configure Database Fields open the **Database Confguration dialog** and go to **Level Settings** > **Database Fields** in the treeview menu.

Each level can have a number of Database Fields configured which all have the options Read Only, Required Field and Auto.

For our example, we will assume the customer always wants to know who the programmer was for a CAM file. In order to add that capability select the **CAM-File level** from the Level dropdown menu as shown in the screenshot below. In **Text field 1**, add the field value **Programmer** and enable to the option **Required Field**. This ensures a programmer name must be entered when a CAM file is added. Click the OK button to save and close.



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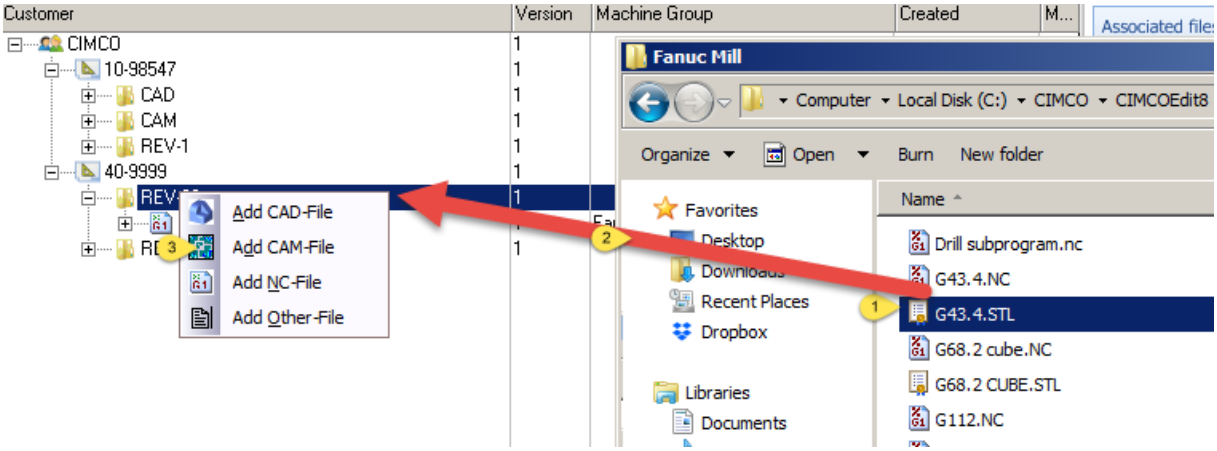
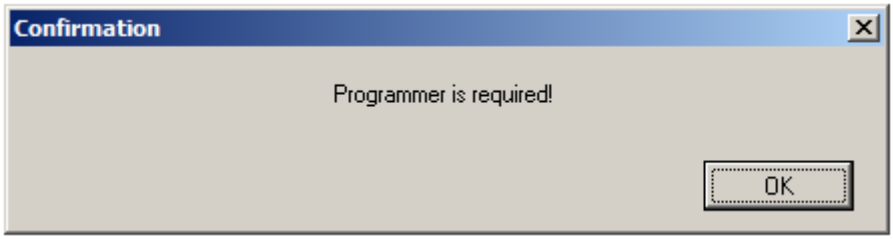
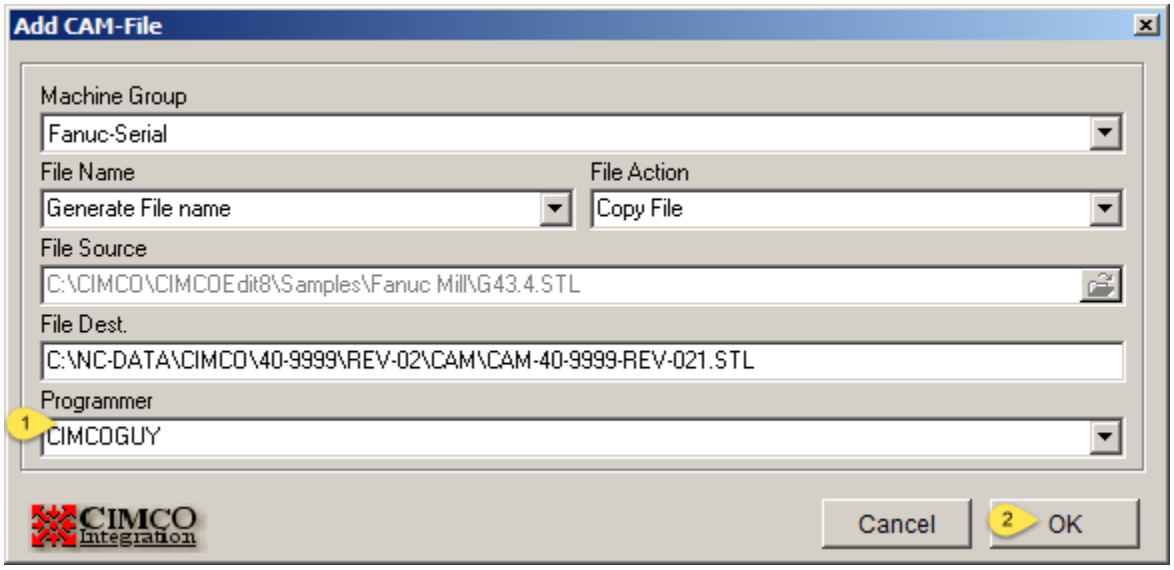
Try it out by dragging and dropping a CAM file onto the Revision level in one of your sample levels as shown in the following image. You can use an STL file from the CIMCOEdit8 Samples directory.



When you release the CAM file over a Revision level a menu will appear. Chose **Add CAM-File** and in the resulting dialog, you will see the option to type in the Programmer name (with or without predefined values, see Predefined fields next to provide a range of names). If you fail to type in a name and simply click the OK button, you will get a pop-up message notifying you that a Programmer is required.



Type in a programmer name and click the OK button.



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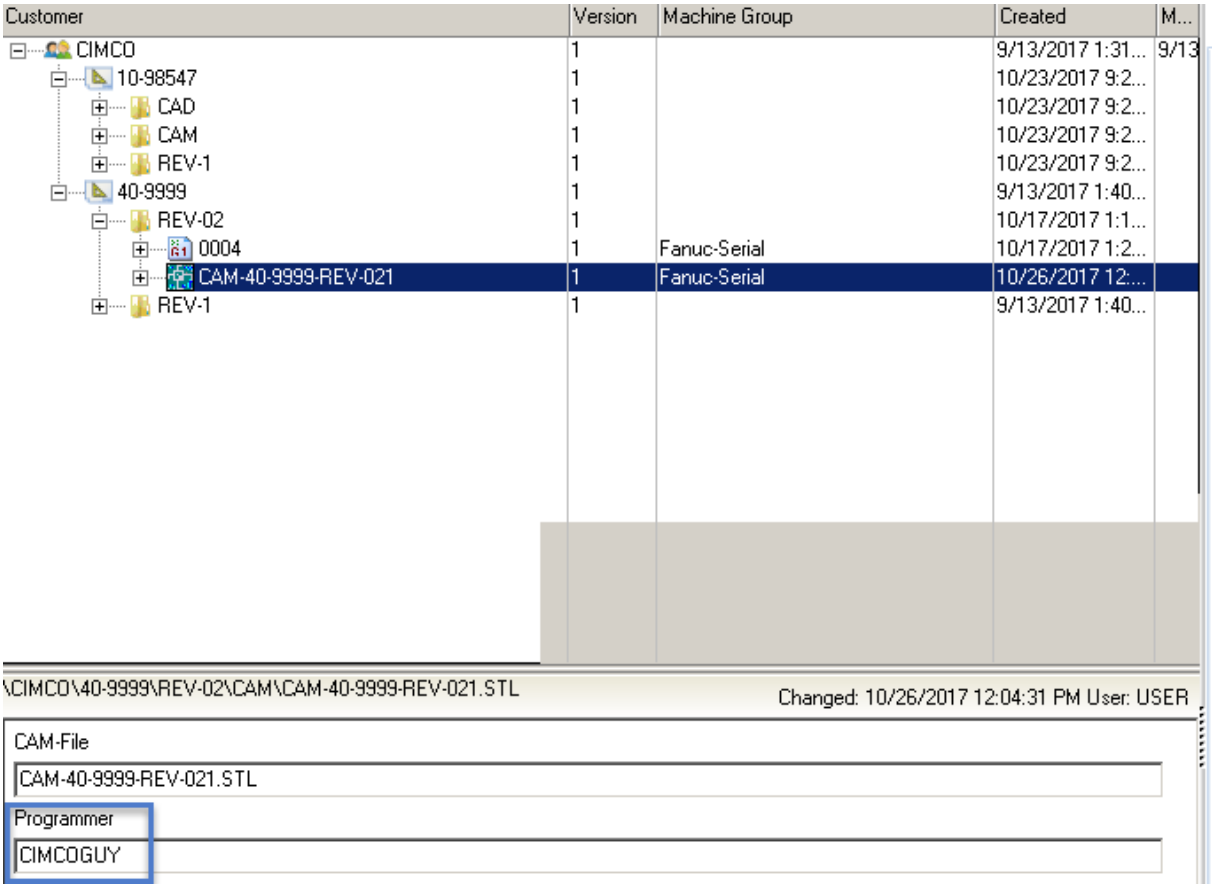
If you do not see any machines listed in the **Machine Group dropdown** and you cannot click the OK button, then close the MDM Client, restart the MDM Server and open the MDM Client again. Otherwise, see the section Force Changes to Work under Troubleshooting, page 115.

You should now have the CAM file added, and when highlighted you will see the Programmer name in the interface as well.



6. Predefined fields

As MDM is designed to help you get a better handle on your production data, consistency and ease of entering that data is important. One way to accomplish both is by using Predefined Fields. For our example we will use a field that will allow us to select specific programmers for CAM files. This will be used to provide a dropdown menu as well as auto-complete for the previous step where we created a Database field for the CAM-File level.

To get started, open the **Database Configuration dialog** and go to **Level Settings** > **Predefined Fields** in the treeview menu. Choose the level **CAM-File** and the Field **Programmer**. Click the **New button** to add a new programmer. Add the programmers as shown in the screenshot below and, when done, click the **OK button** to save and close.

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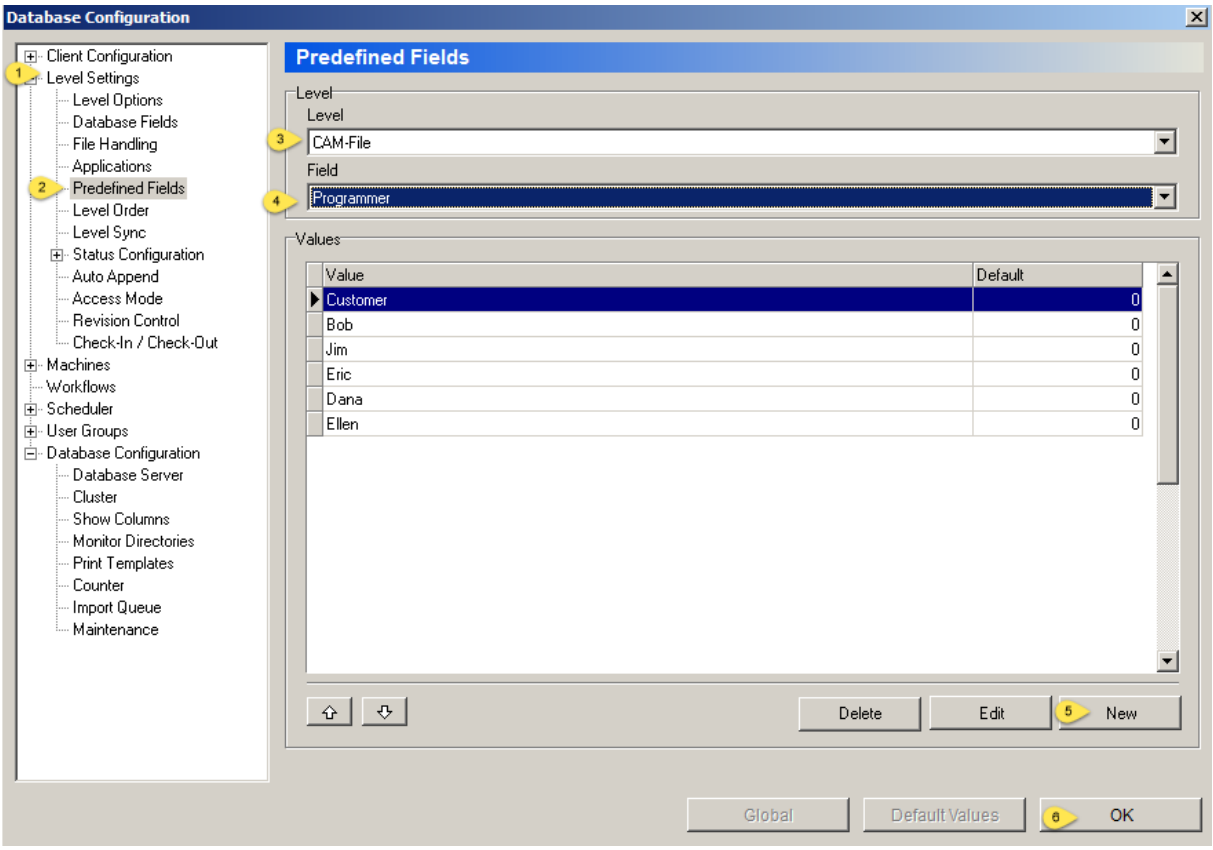
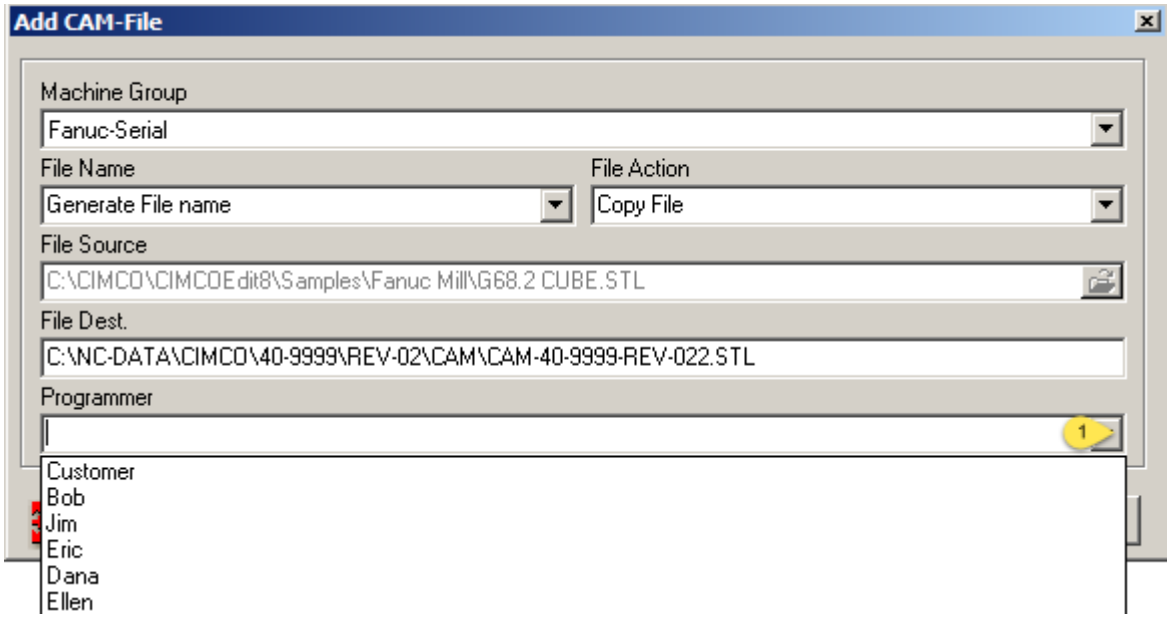


After adding these entries, you will see them available as a dropdown whenever adding a CAM file to the system.



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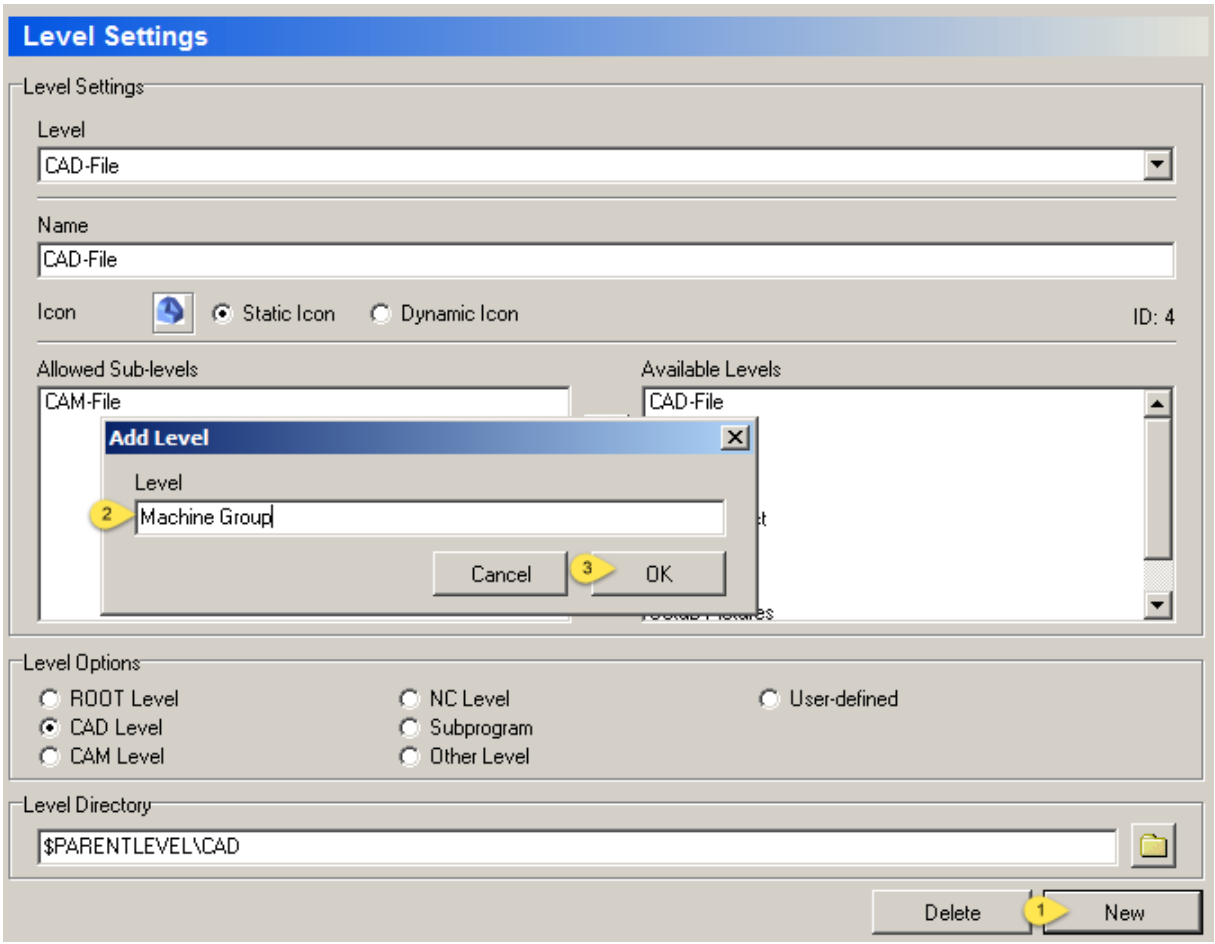
7. Create new Machine Group level

A growing number of MDM installations involve utilizing machine groups as a level to better organize manufacturing data. It helps when a customer has a large number of machines and programs by making it much easier to view only the programs that apply to one or more machines (in a machine group). If you have an application where this might be useful, these are the steps to create one or more Machine Group levels under the Revision level.

To add a new level for Machine Group open the **Database Configuration** and select **Level Settings** in the treeview menu. Click the **New button** and name the new level **Machine Group**, then click the **OK button** to add the level.



Next we need to choose what icon to use for the Machine Group level when displayed in the MDM level tree/hierarchy. We recommend using a **Static Icon** in most cases since Dynamic Icons may have to extract images from quite large files. Without careful consideration this can cause un-necessary loads on your system. We will go with the best practice here and choose a Static Icon from the samples available. To do so, **select Static Icon** and then click the icon preview box (currently blank) adjacent to it.

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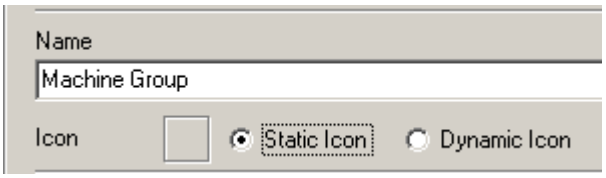
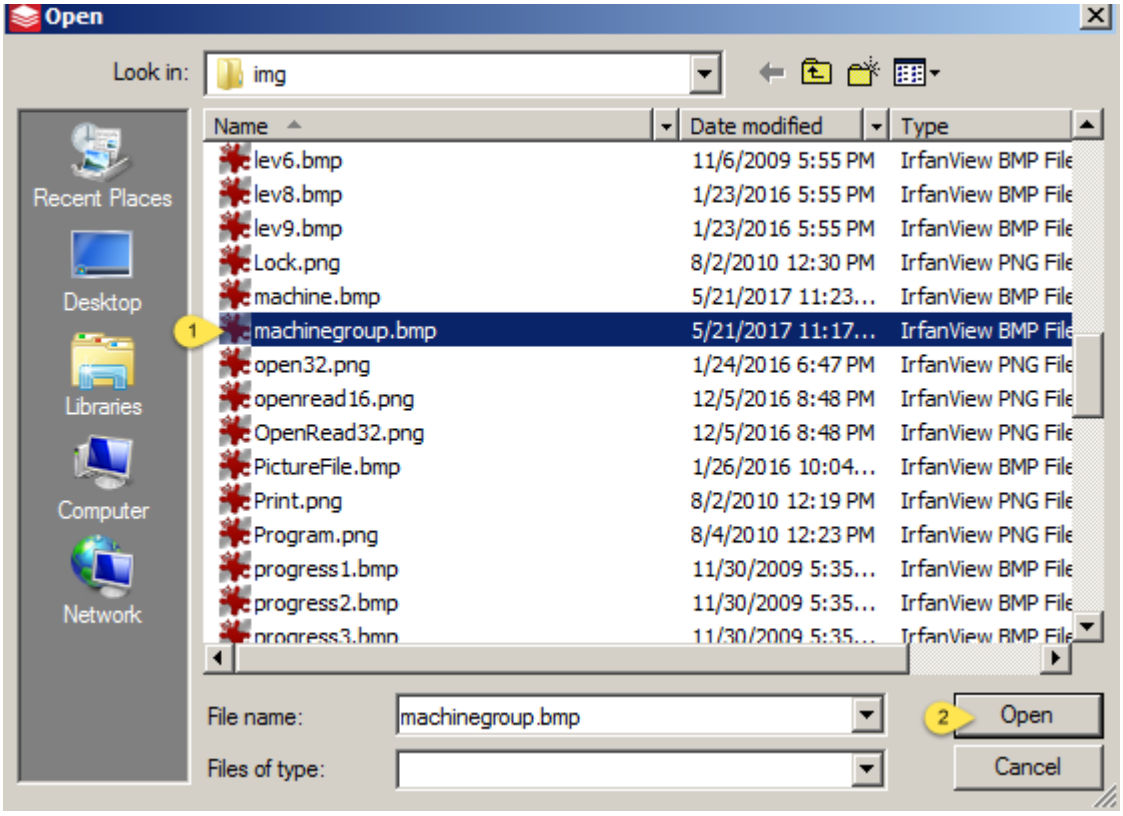
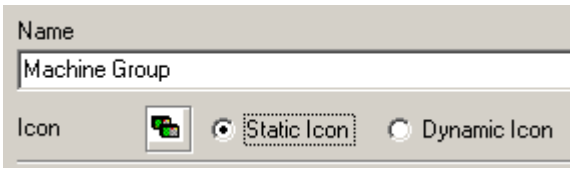


From there, browse to the **IMG** sub directory inside the CIMCO MDM folder. There is a suitable icon named **machinegroup.bmp**. Select it and click the **Open button**.



The preview box now displays the icon selected.



To complete setting up the machine Group level, add the **NC-File** and **Other-File** sub levels from the **Available Levels** list as shown in the screenshot below. Select level and use the left-pointing arrow to add. That way our customer can include manufacturing data specific to this machine group in addition to the actual functional NC program. Make sure **User-defined** is enabled for the Machine Group level in the Level Options at the bottom of the dialog.

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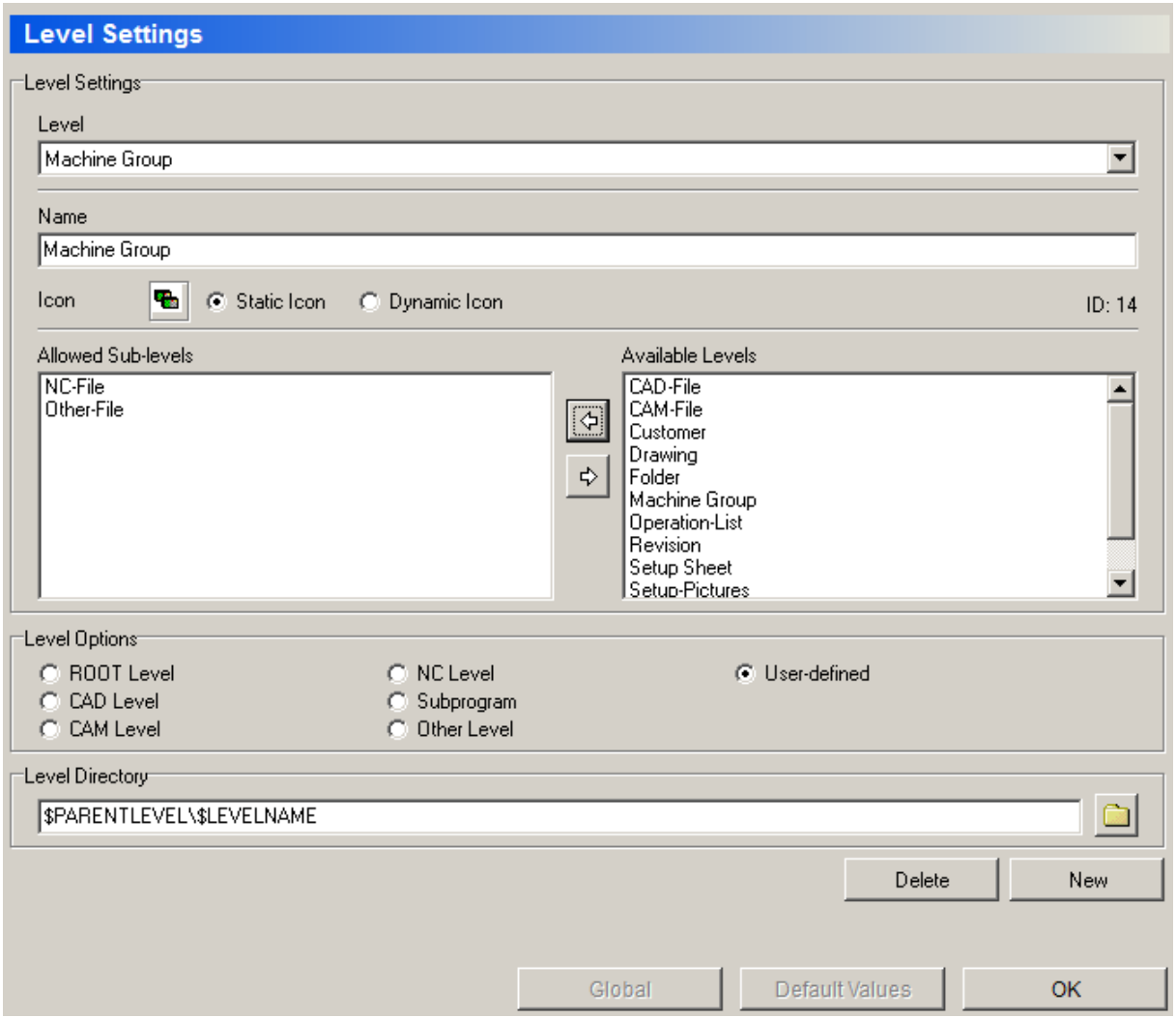

Now that we have our level created, we need to tell MDM that the **Level is Machinegroup**. In the treeview menu under Level Settings, select **Level Options**. Select **Machine Group** from the Level dropdown and enable the option **Level is Machine group**.

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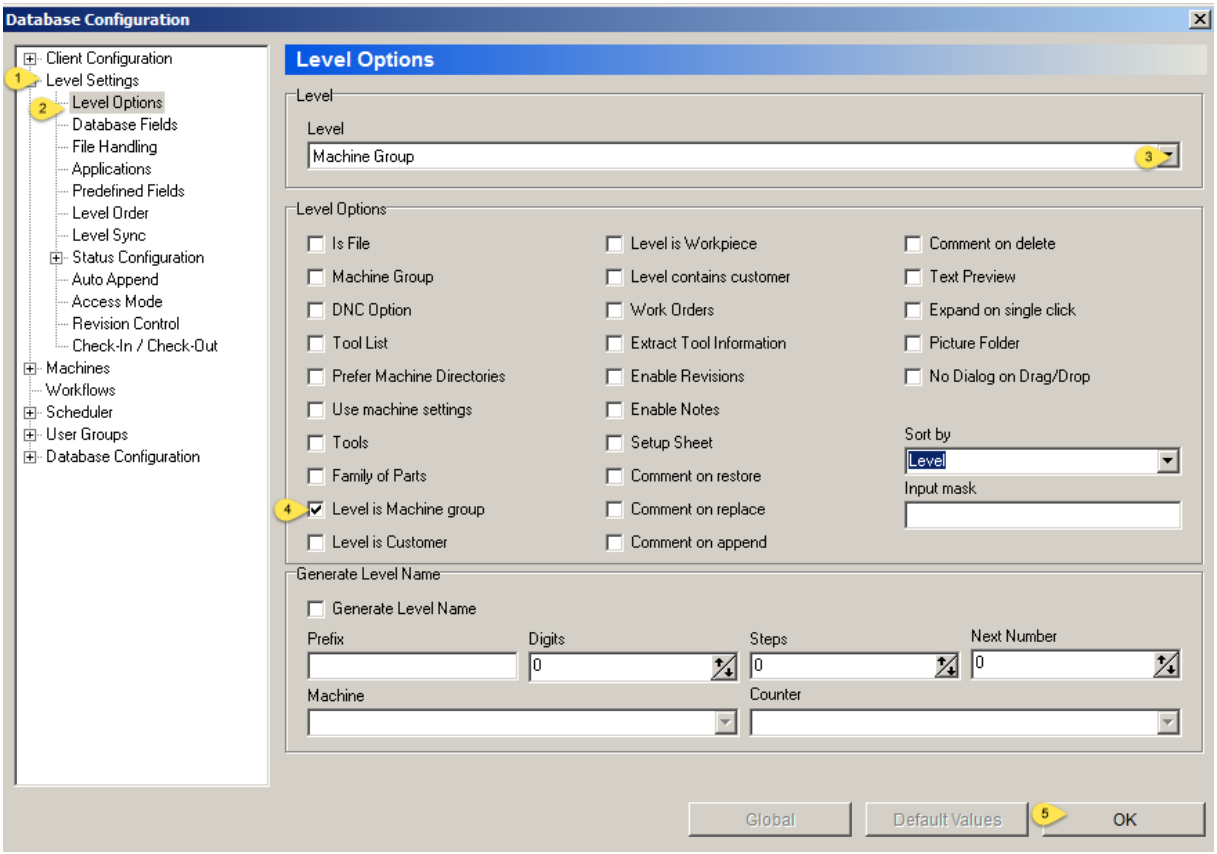

Now we need to determine where this level will be displayed, this is accomplished by going to Level Settings and adding Machine Group to the level where it should be available. In our example we will make it accessible to the Drawing and Revision Levels. Follow the steps 1-3 shown in the screenshot below.

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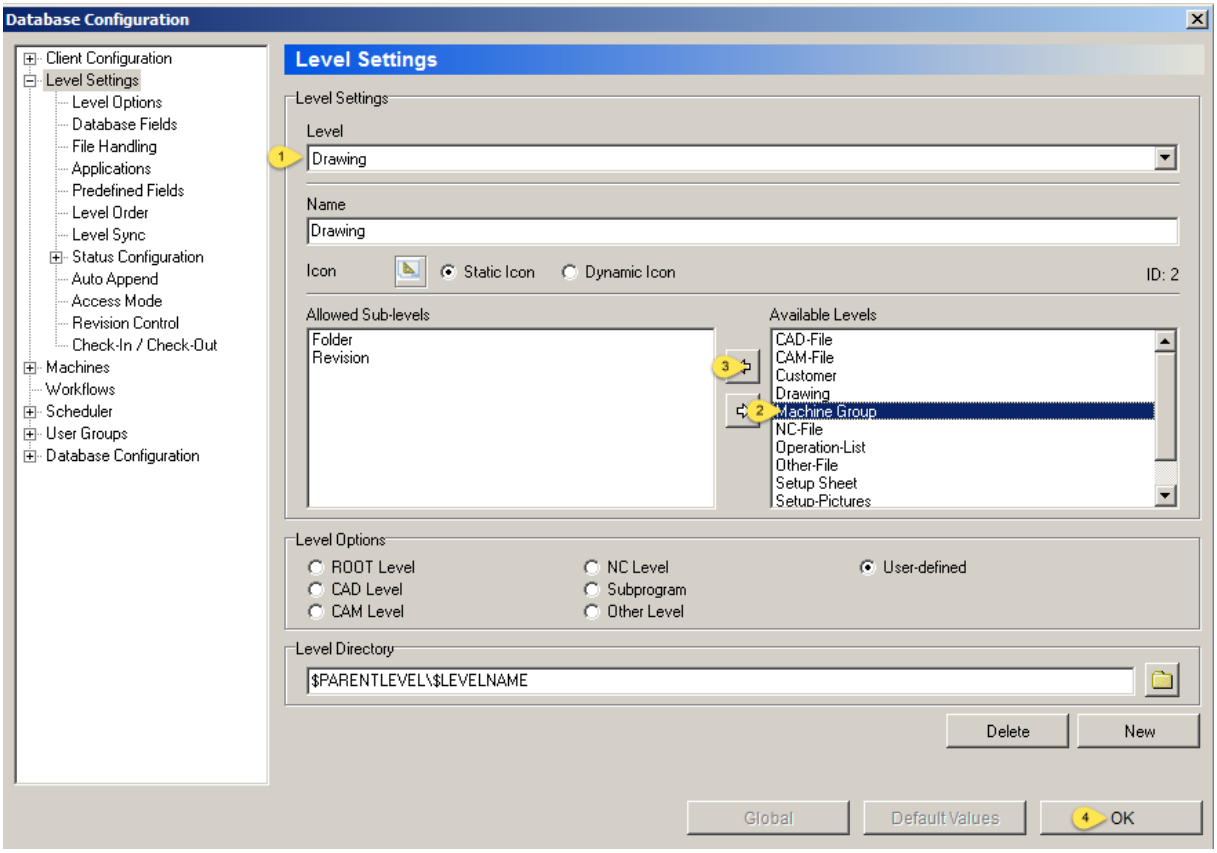
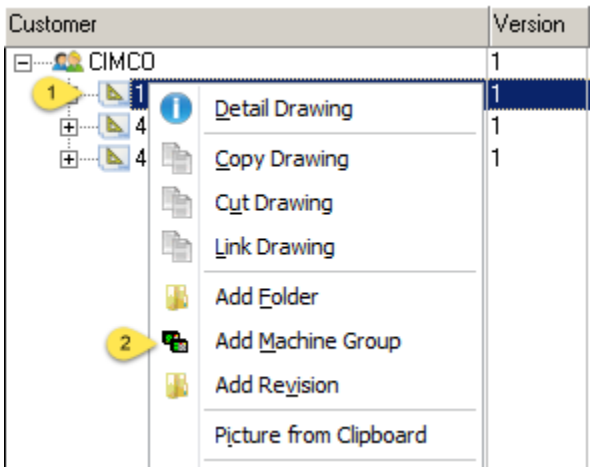


Repeat the steps for the Revision Level and click the **OK button** to save and close. Now you can test by adding a Machine Group level to an existing Drawing or Revision level by right-clicking the level and choosing **Add Machine Group**.

Please note: If you do not see the option **Add Machine Group**, log off and then on or simply restart the MDM Client.



From the Machine Group dropdown menu, select the desired machine group.

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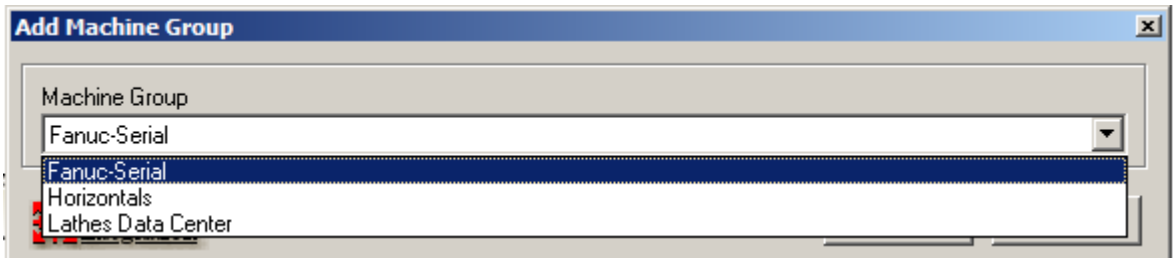
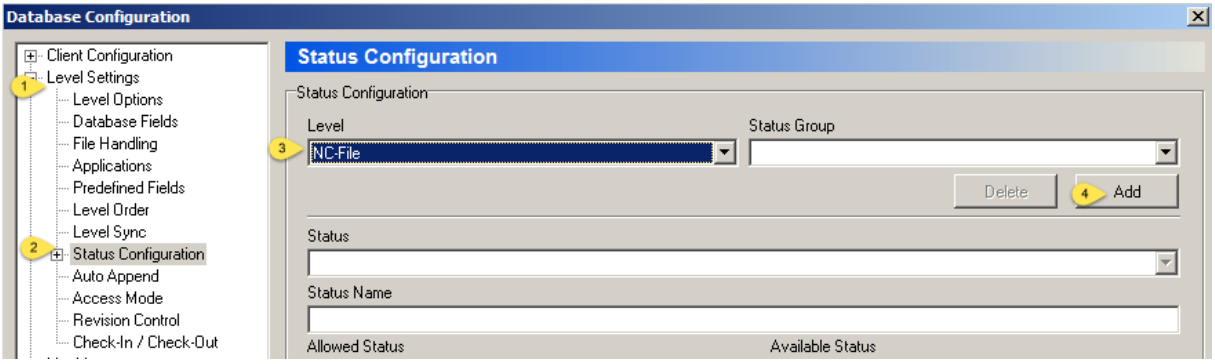


You now have a Machine Group level under the Drawing or Revision level that can store known good programs for machines in the group as well as other files related to those specific machines. Any other data can be stored higher up in the hierarchy if it is shared information.

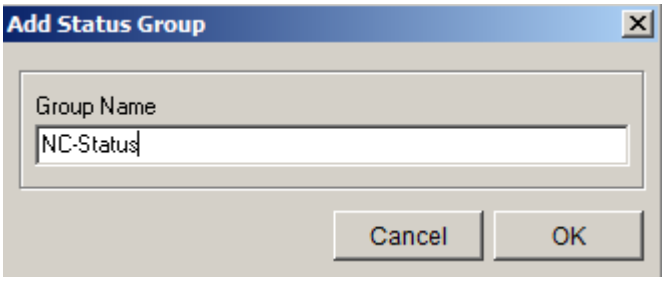
8. Create new Status

Status is one of the more crucial aspects of controlling files in the MDM system. It lets you define statuses which can be applied to levels (such as CAM-File, CAD-File and NC-File) and which determine the options that can be performed on these levels. Status allows files to be locked, unlocked and so forth - as well as notifications and access to some advanced features. For starters we will create a **Status Group** to control the access to NC-Files.

Open the **Database Configuration dialog** and go to **Level Settings** > **Status Configuration**. Select the level **NC-File** and click the **Add button** to add a new Status Group.



Name the Status Group **NC-Status** as it pertains to the status of NC-Files.



Next we will add three states which any NC file can be in: **Locked**, **Approved** and **In Modification**. Each status is added using the **Add button** near the bottom of the screen. Make sure to select **NC-Status** from the Status Group dropdown:

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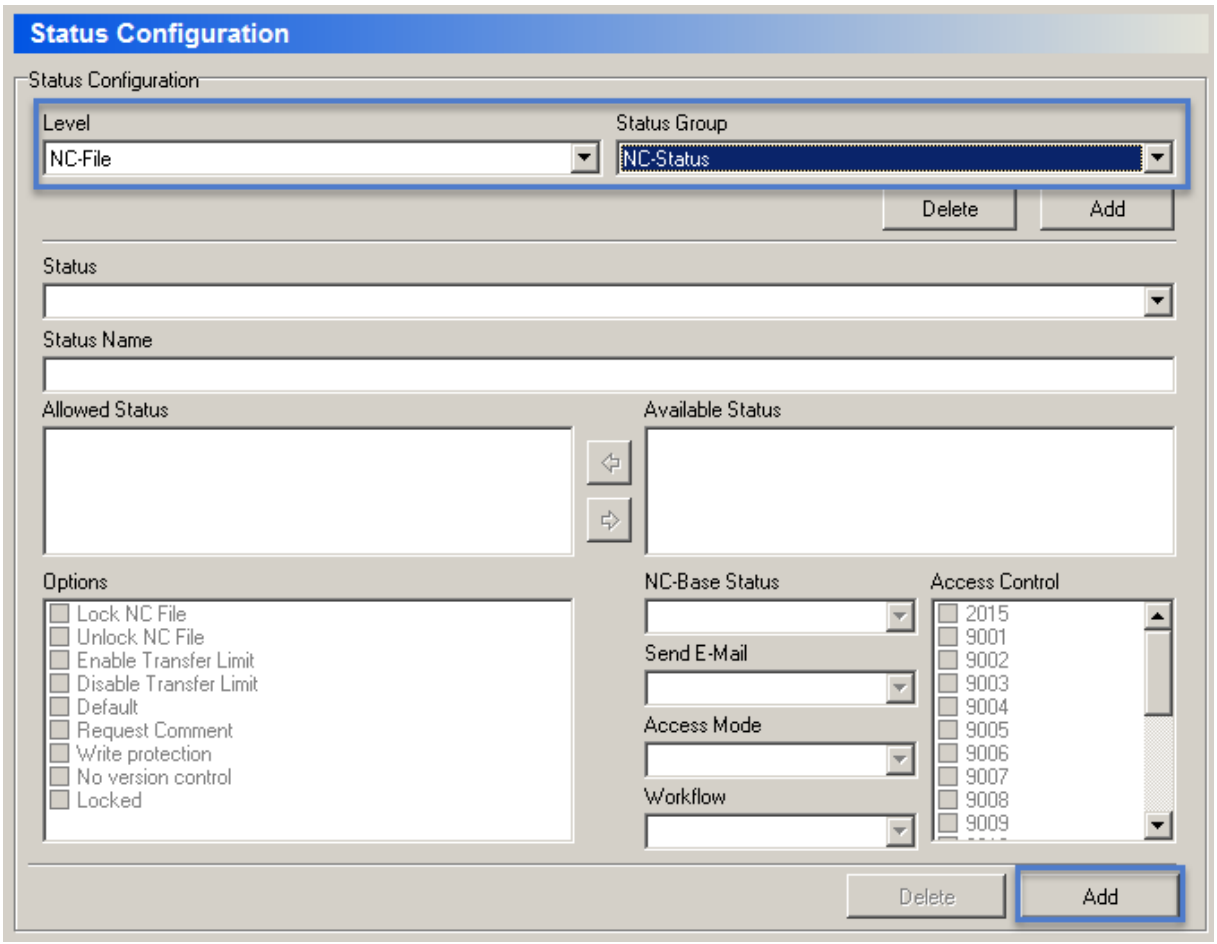
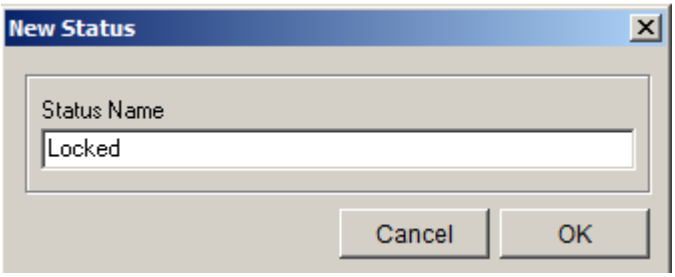


Then add the three status names **Locked**, **Approved** and **In Modification**:



Click the **OK button** for each one.

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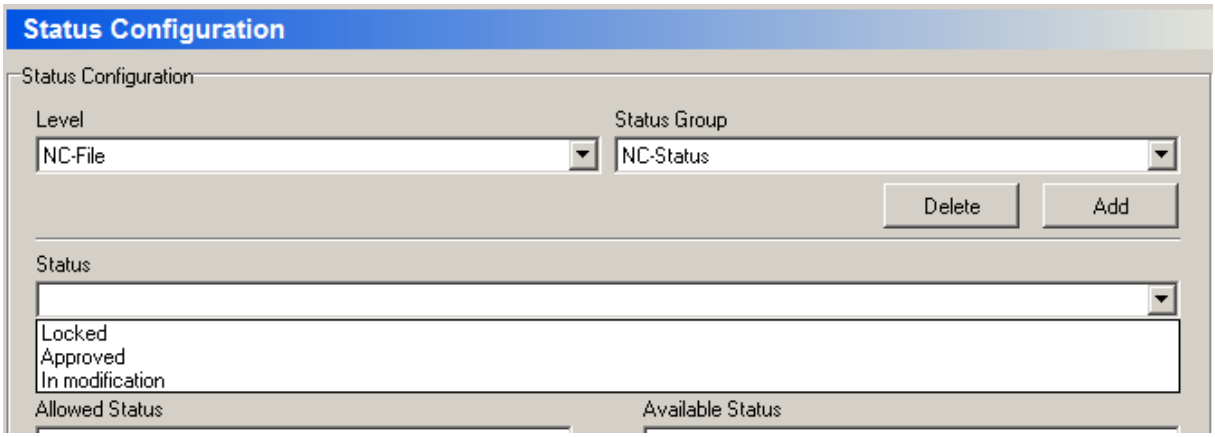
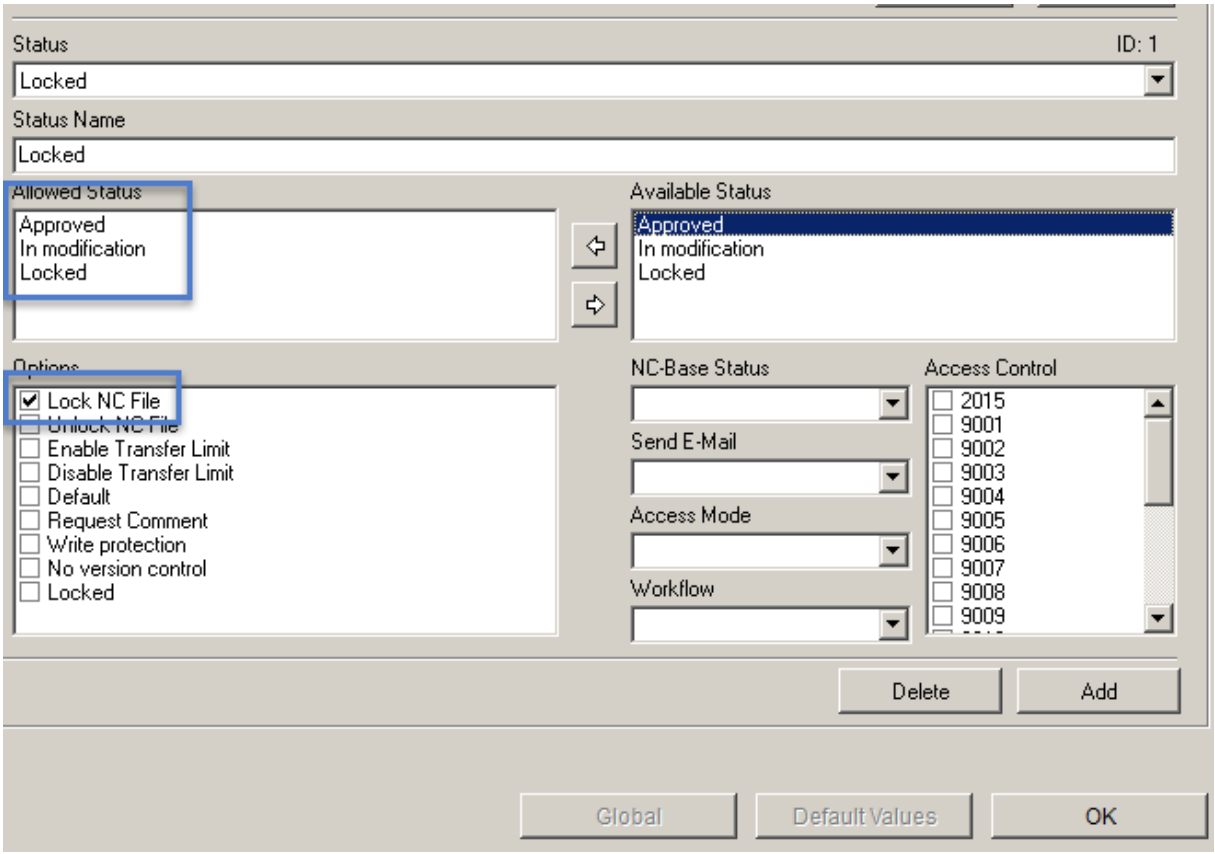
Now we can configure the statuses. Start with **Locked** by selecting it from the **Status dropdown** menu and apply the settings shown in the screenshot below.



Use the following settings for the Locked status.



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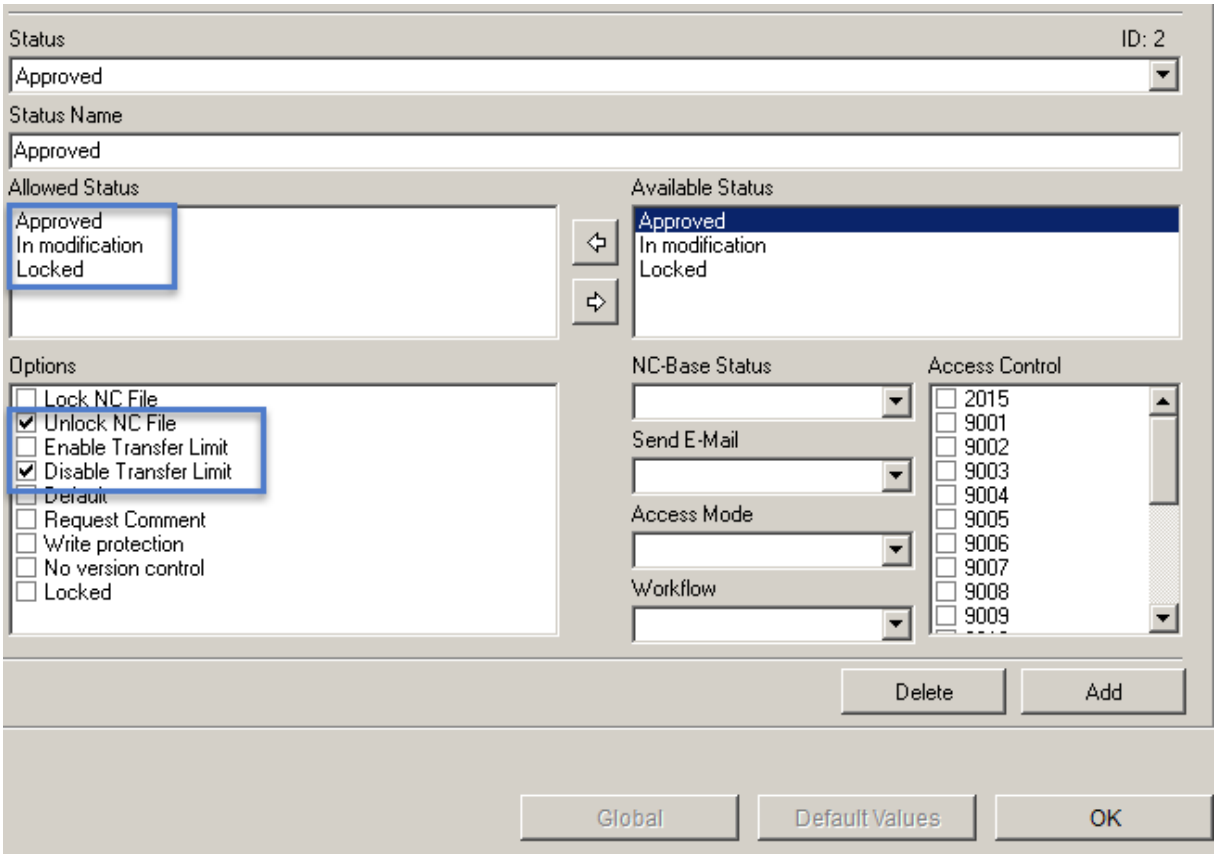
Next we will configure the Approved status. Apply the following settings.



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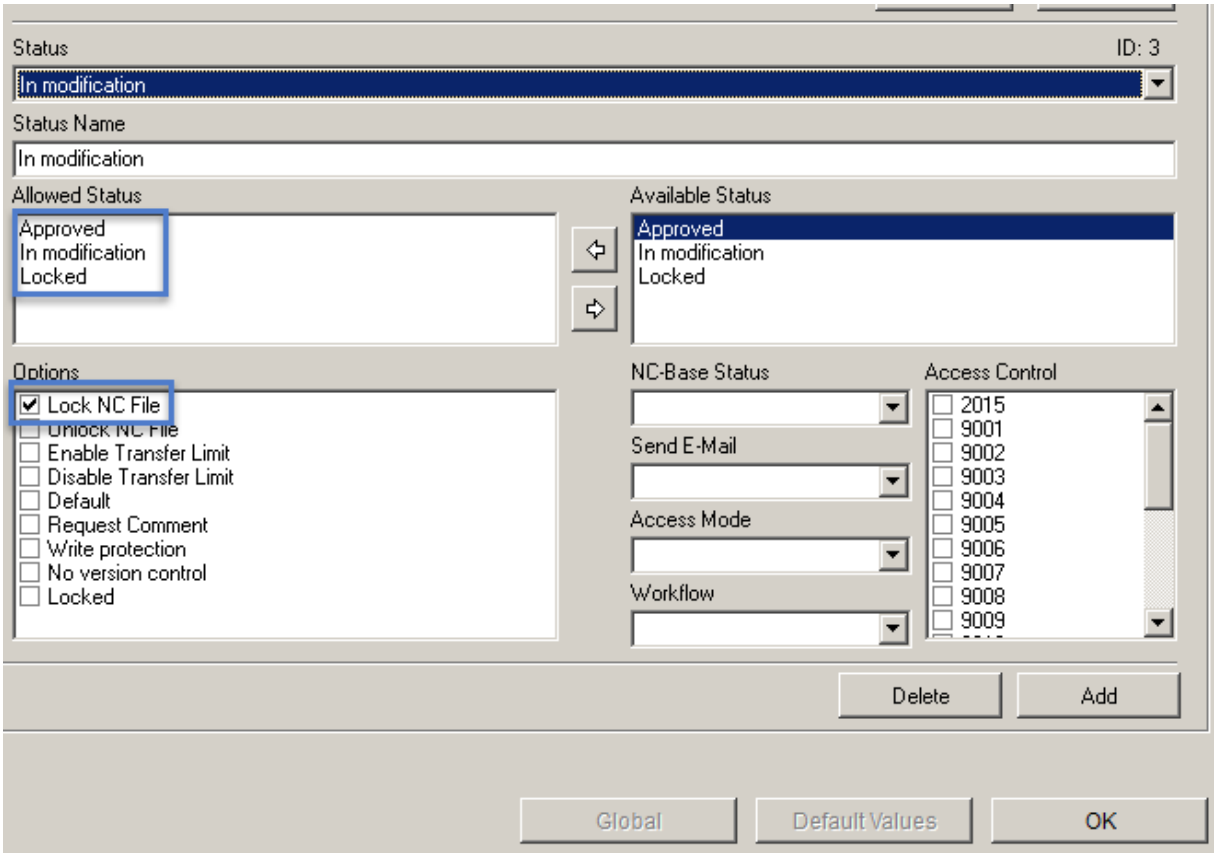
Finally we will configure the In Modification status using the following settings.



Files flagged as Locked cannot be remotely requested with DNC-Max or sent using CIMCO MDM.

With the statuses configured for the NC-File level we also need to define who is allowed to change status. At the bottom of the Status Configuration dialog you will see the lists **User Groups** and **Access Control** (the User Groups list is not shown in the previous screenshots since this has been introduced recently. See screenshot below). For each status, enable Administrators in the User Group list. That way, Administrators are allowed to change the status of NC files.

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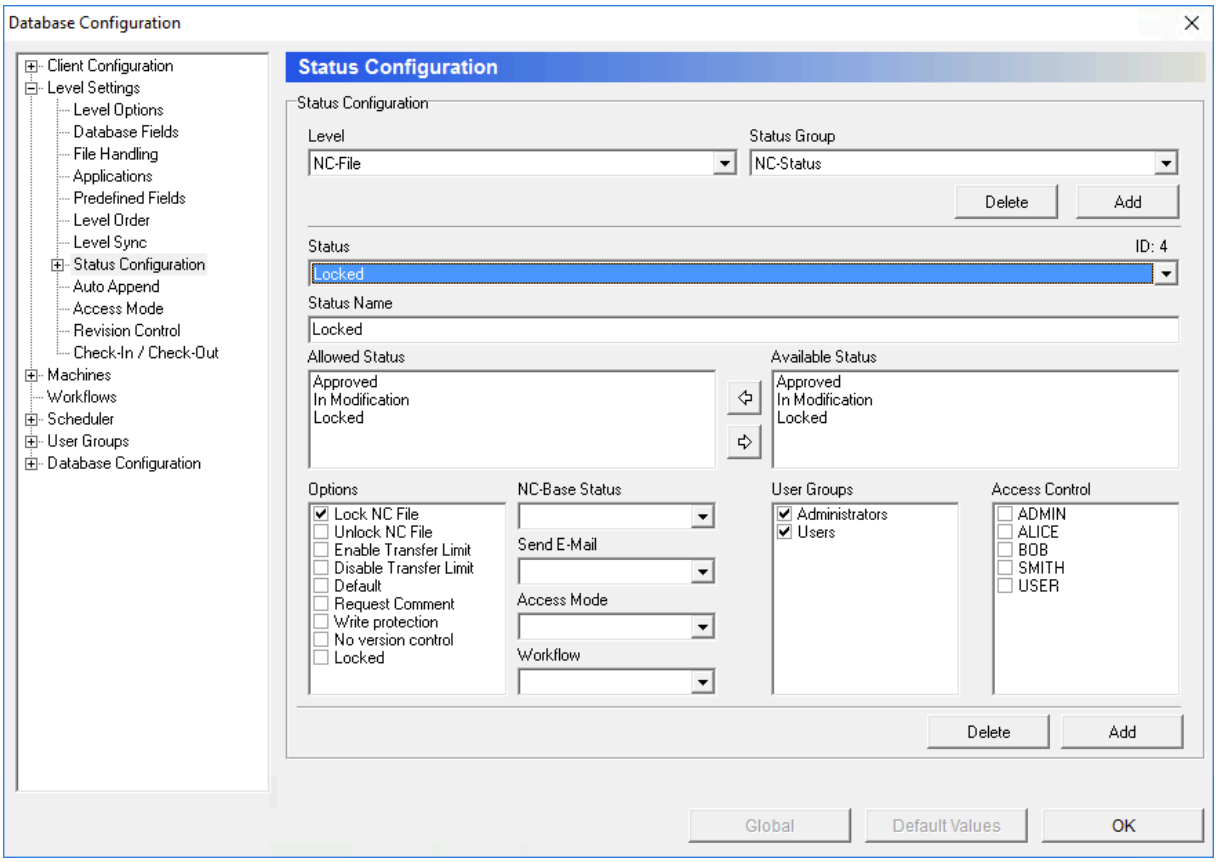

If you want to enable all or specific users to be able to change status this can be done here as well. This, however, also requires some additional changes for users in the User Groups settings. At this point, however, we will not go deeper into configuring User Groups.

Next we will add some additional constraints to the statuses by adding Access Modes.

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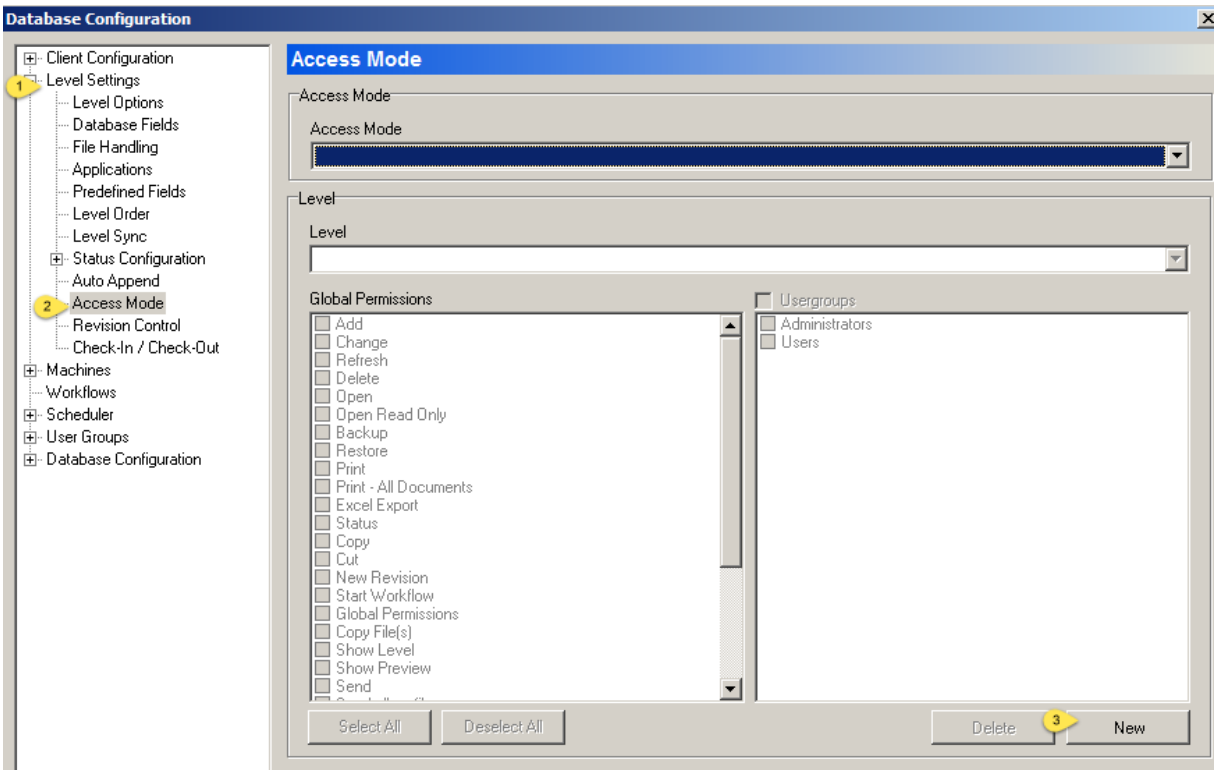
9. Setup Access Mode

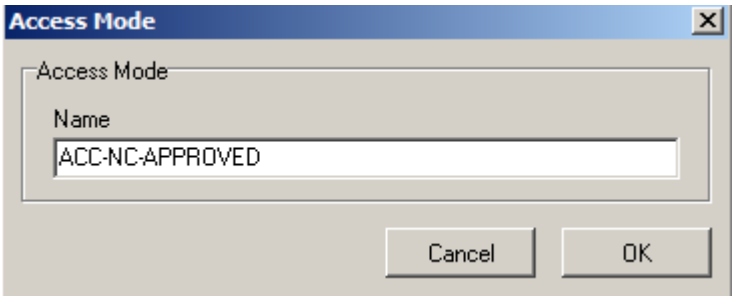
In addition to Status, the use of Access Modes allows for additional characteristics to be applied to certain statuses. Access Modes can be applied to specific User Groups to override the default right-click menu behavior and control what options are available.

When an Access Mode is applied to a status, the Access Mode settings supercede any User Group settings. This is important in order to provide fine-grained control such as for example to limit which User Groups can send a file that has the status In Modication (indicating that the file is a work-in-progress).

In the following we will create an **NC-File Approved** Access Mode, we will name it **ACC-NC-APPROVED**. To do this, select **Access mode** under **Level Settings** in the treeview menu and click the **New button**.



Name it **ACC-NC-APPROVED** and click the OK button.



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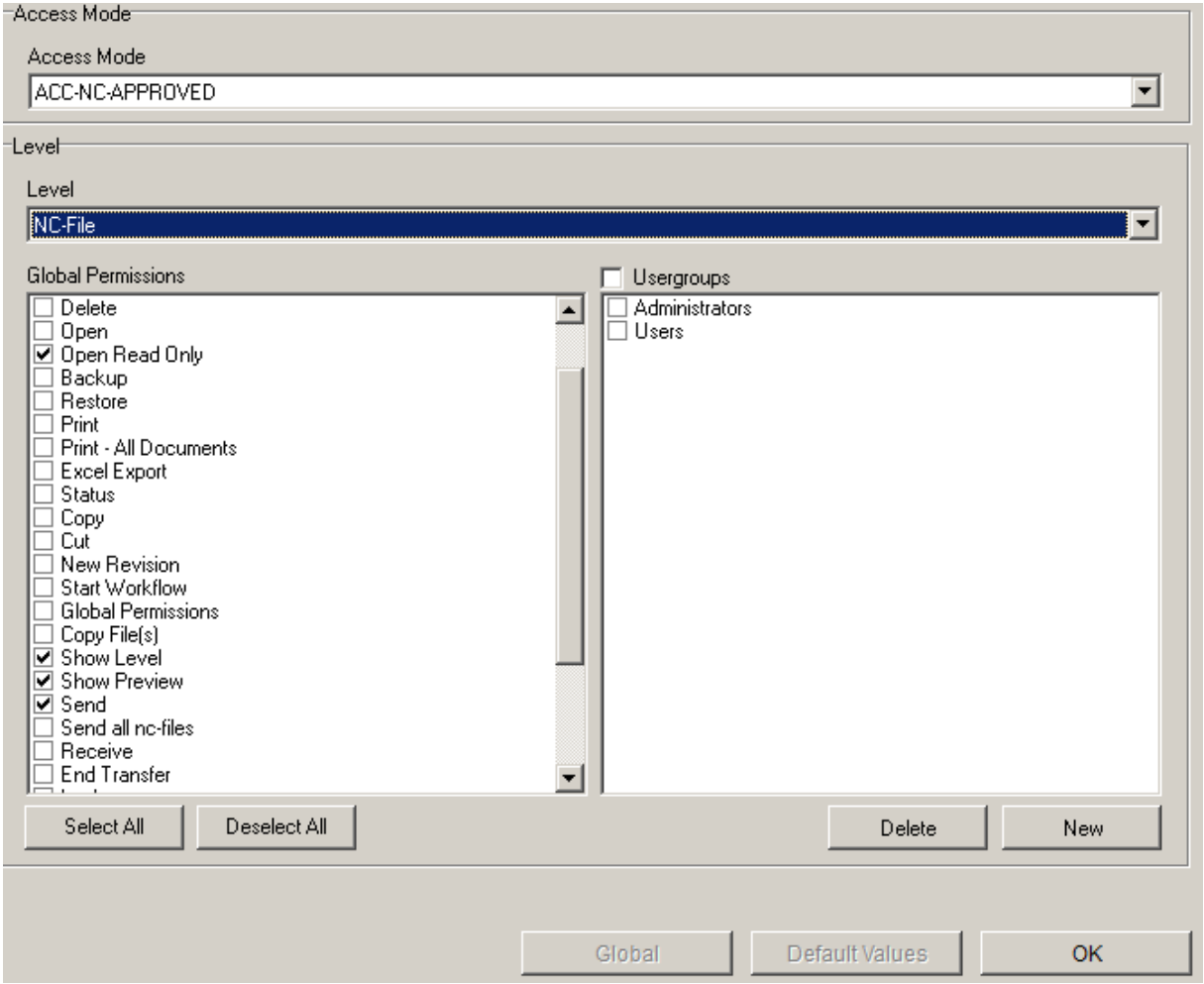
Now we will select the NC-File level for this Access Mode and apply a few allowed right-click menu options for files that are approved. These permissions should be applied to one or more User Groups that will utilize these menu options. You can choose Users, Administrators or both.

As mentioned, Access Mode settings supercede User Group settings so options that are not enabled will not be accessible to the User Groups selected. This is useful for not allowing deletion of approved NC files for example.



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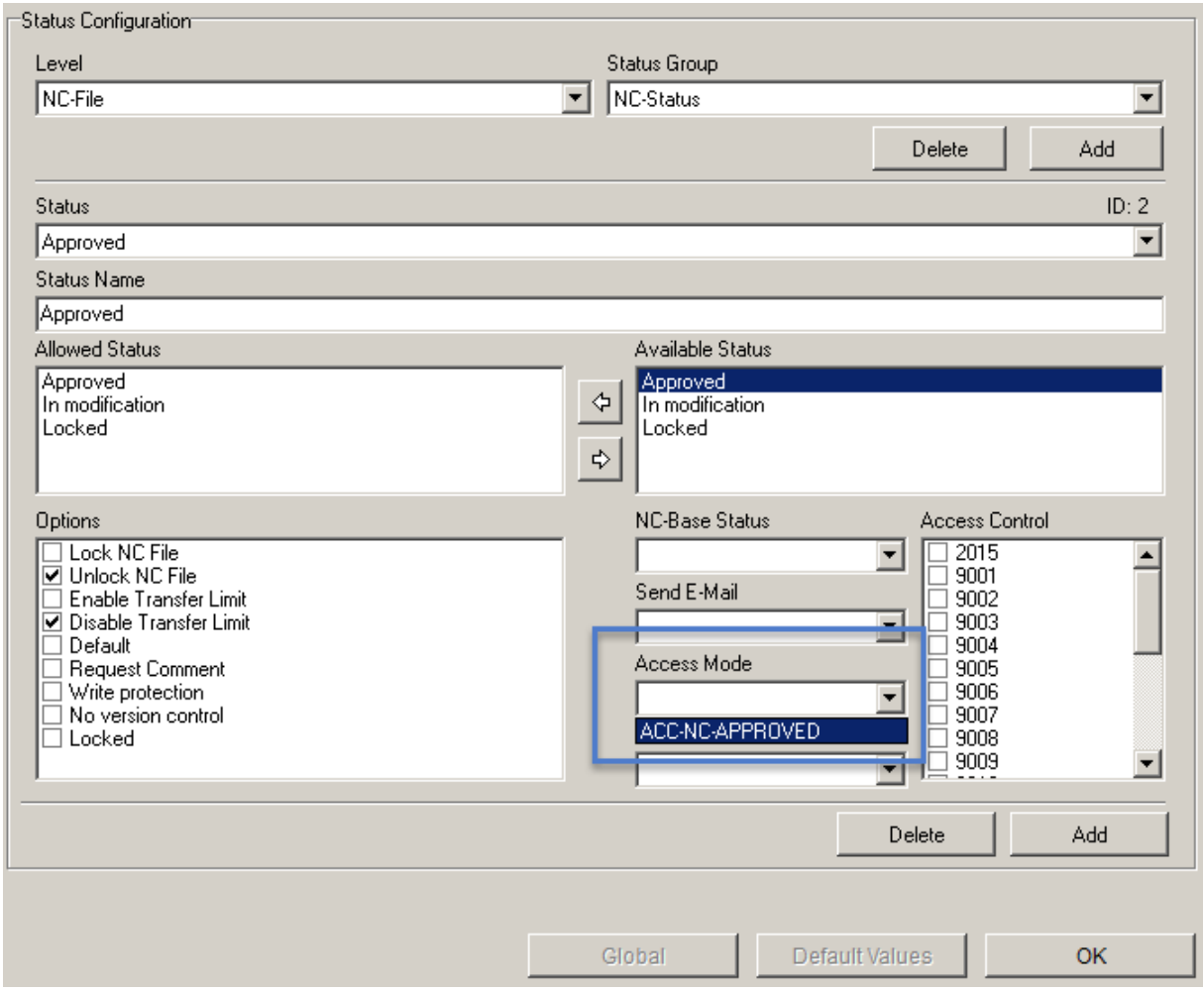
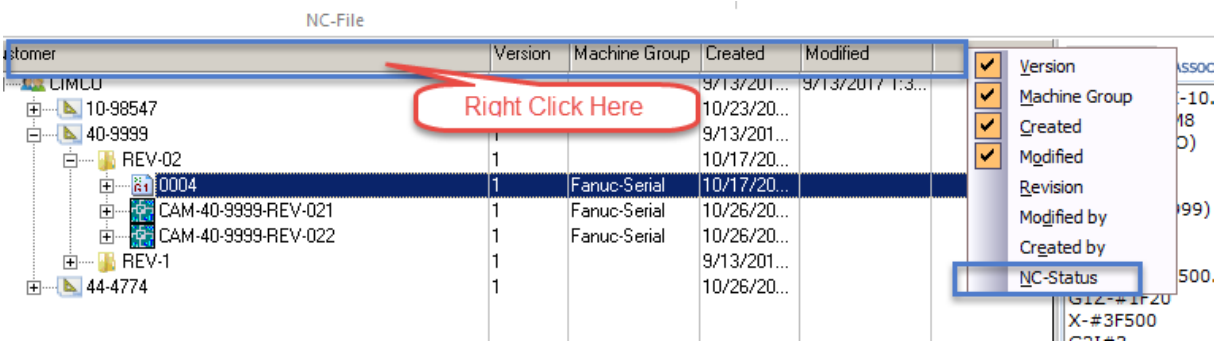
The final step is to head back to the **Status Configuration** settings to apply our Access Mode to the **Approved status**. Use the **Access Mode dropdown** menu to add our new Access Mode to the Status.



Keep in mind that permissions in the User Groups settings always supersede settings in individual areas of MDM (with a few exceptions such as Access Mode).

Log off and back on to the MDM Client to test the status with one of your NC-Files. First, right click the top of the fields (column titles) to bring up view options and enable **NC-Status**:



Then right click any NC-File and choose **Change Status**.

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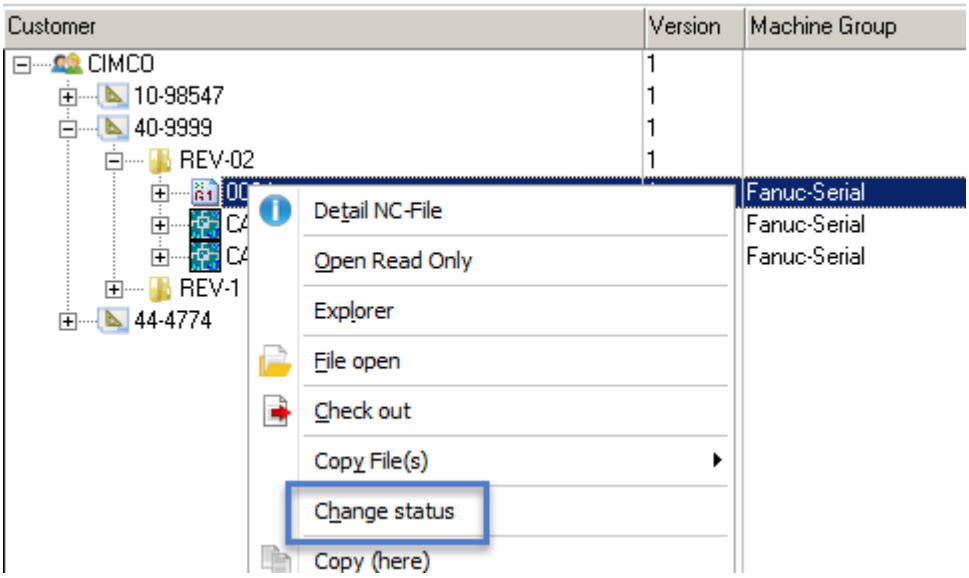
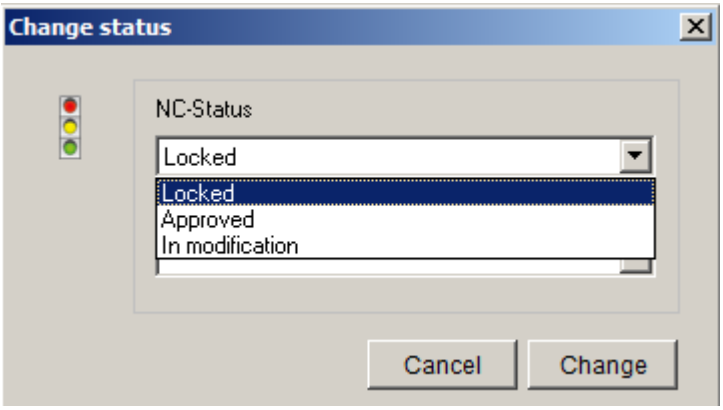
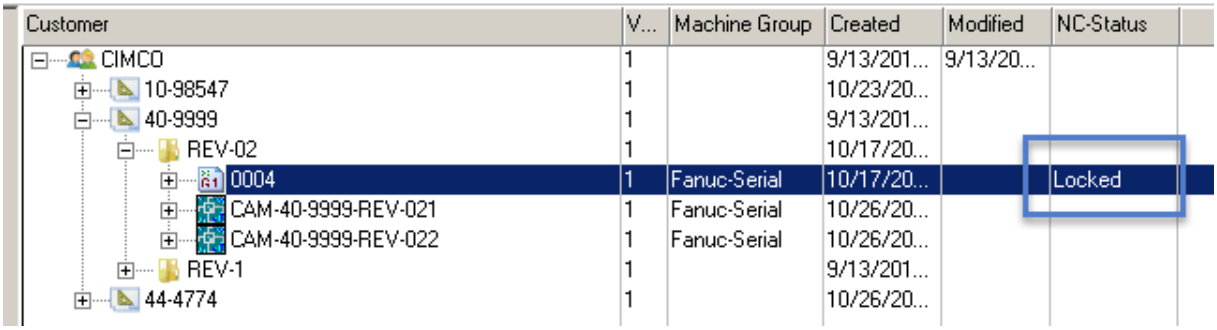


That will bring up the **NC-Status dialog** which has a dropdown menu where the status mode can be selected.



Choose **Locked** and click the button **Change**. As you can see, the NC-Status for this file is now set to Locked.



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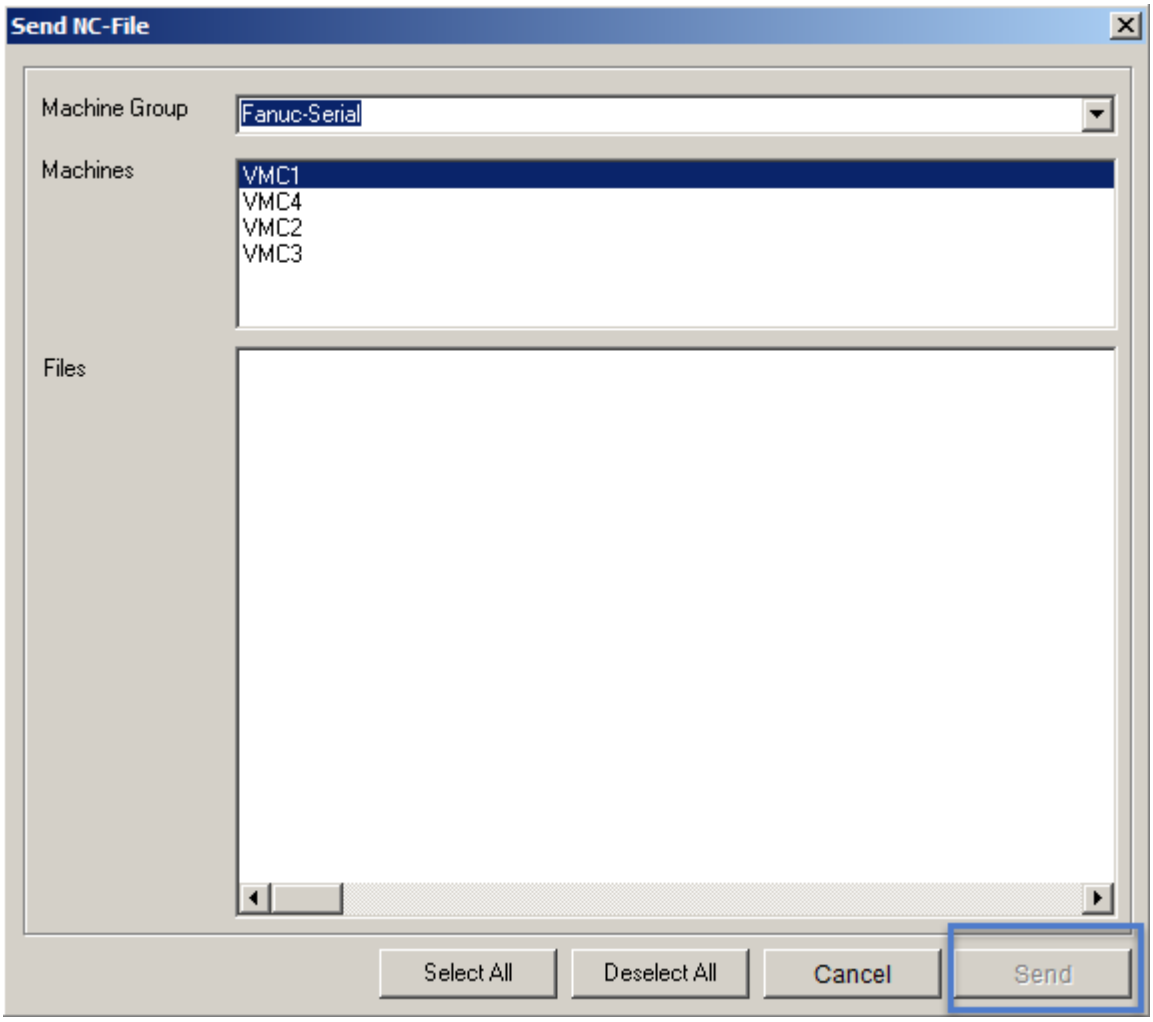
Try to right-click the file and choose **Send**. You will see that the file cannot be sent to the machine. The file will not be listed under Files and the Send button is greyed out.



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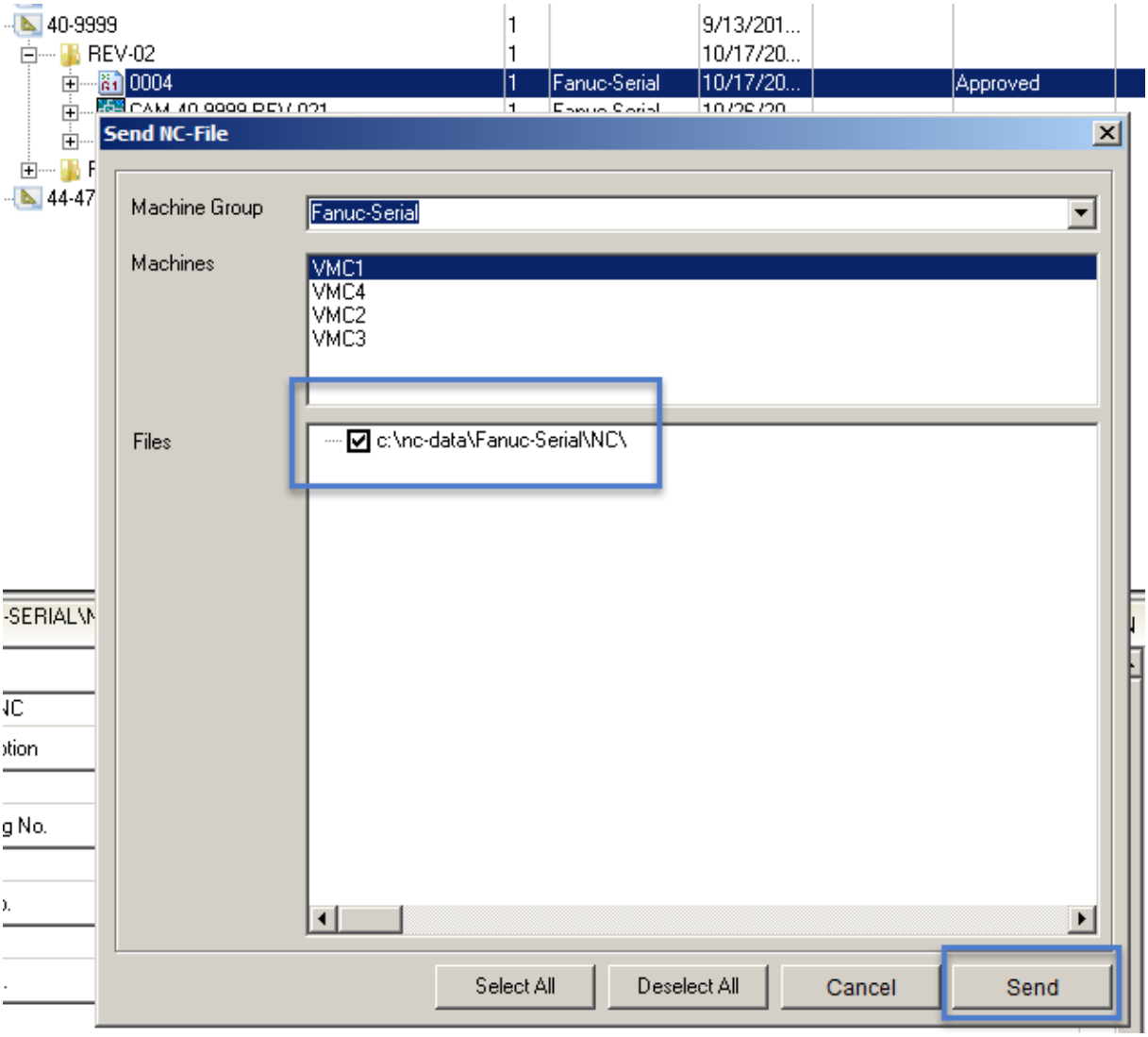
Go ahead and set the file status to **Approved** and you will see that the file can now be sent.



You now have a working Access Mode configured and added to the NC-File level.

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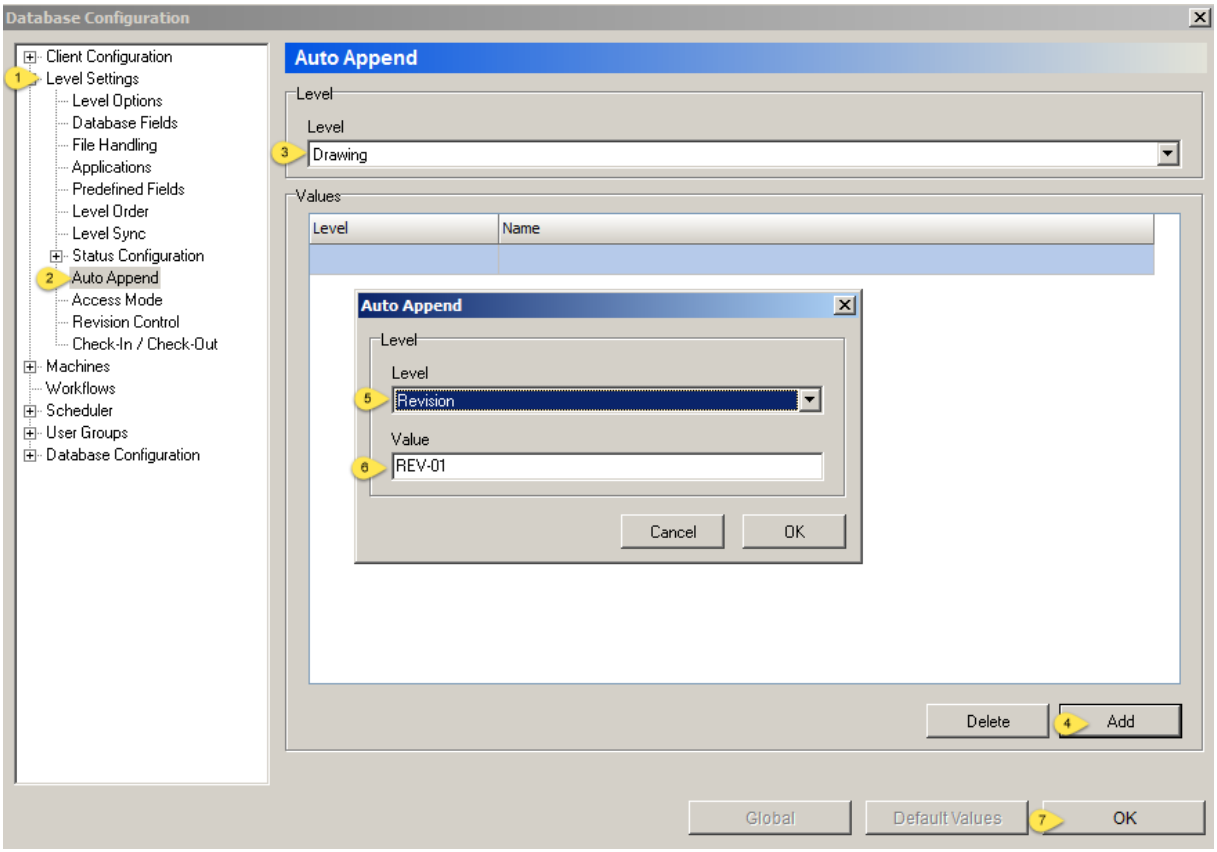
10. Setup Auto append

Auto Append is a useful feature to automate the creation of sub-levels. As an example, let us pretend we have a customer who wants an advanced structure under the Drawing level with folders for Revision, CAM, CAD, QUALITY, and SALES DATA (MDM is not explicitly shop floor software after all). With Auto Append, these levels can be auto created whenever a new Drawing level is created. To configure Auto Append open the **Database Configuration** and go to **Level Settings** > **Auto Append**.

Step 1 – Creating a REV-01 Folder

Since we already have a Revision level, we can configure the Drawing level to auto create the first revision by following the steps shown in the screenshot below.



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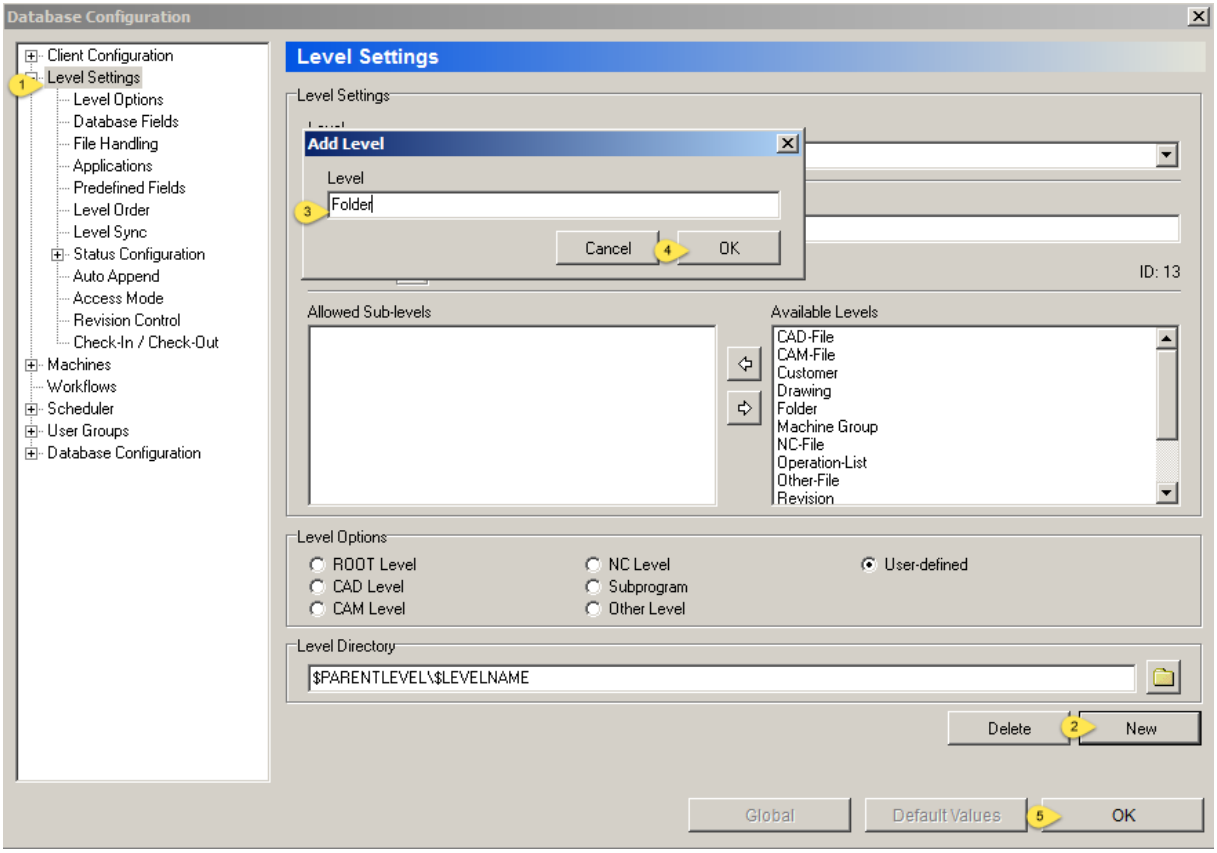
Next we will create a **Folder level** to handle the remaining folders, since they are just containers and do not have attributes associated like the Revision level. Follow the steps in the screenshot below.



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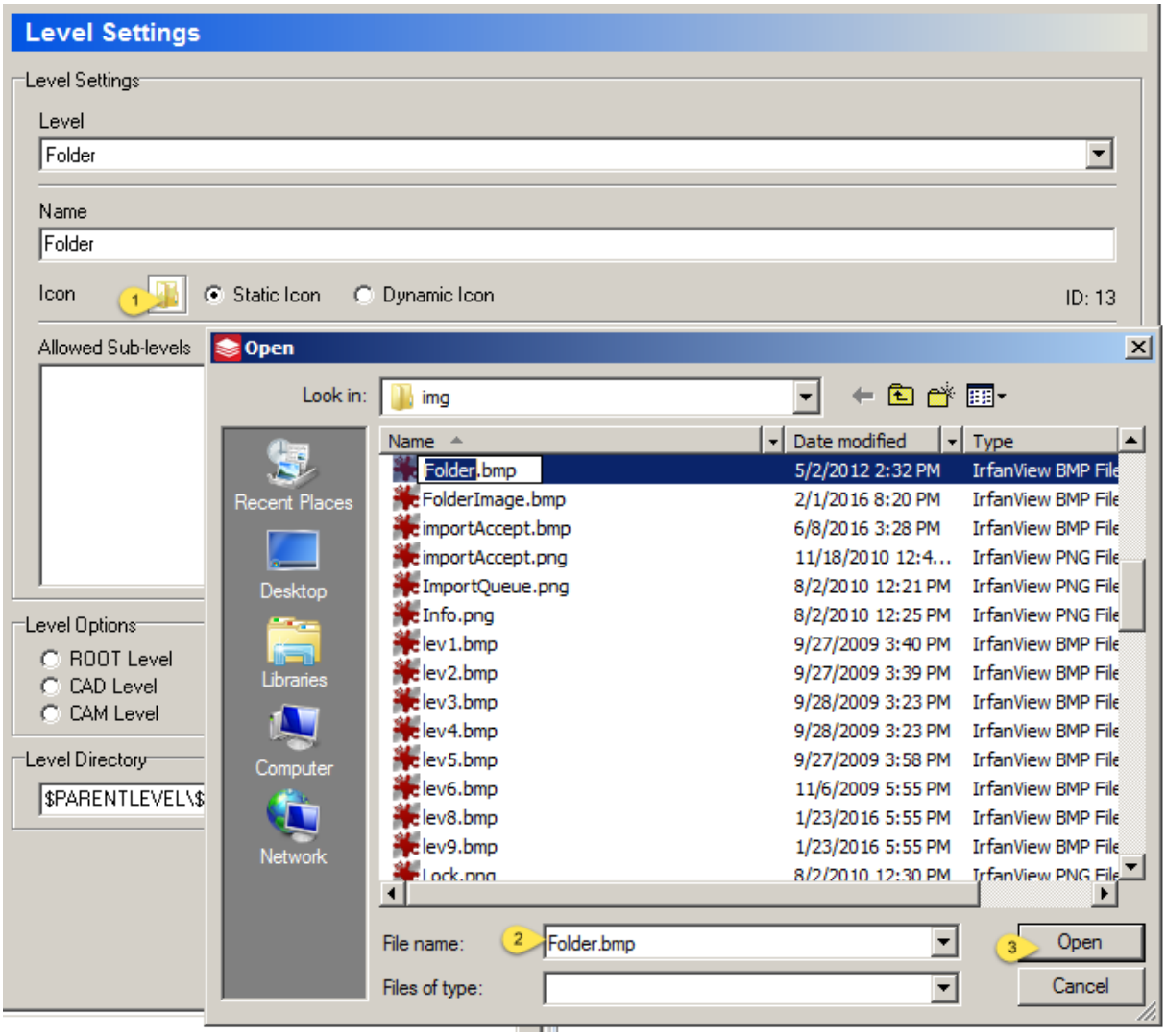
Next we need to assign an icon to the Folder level. Use the icon C:\CIMCO\MDM\img**folder.bmp** - select it and click the Open button.



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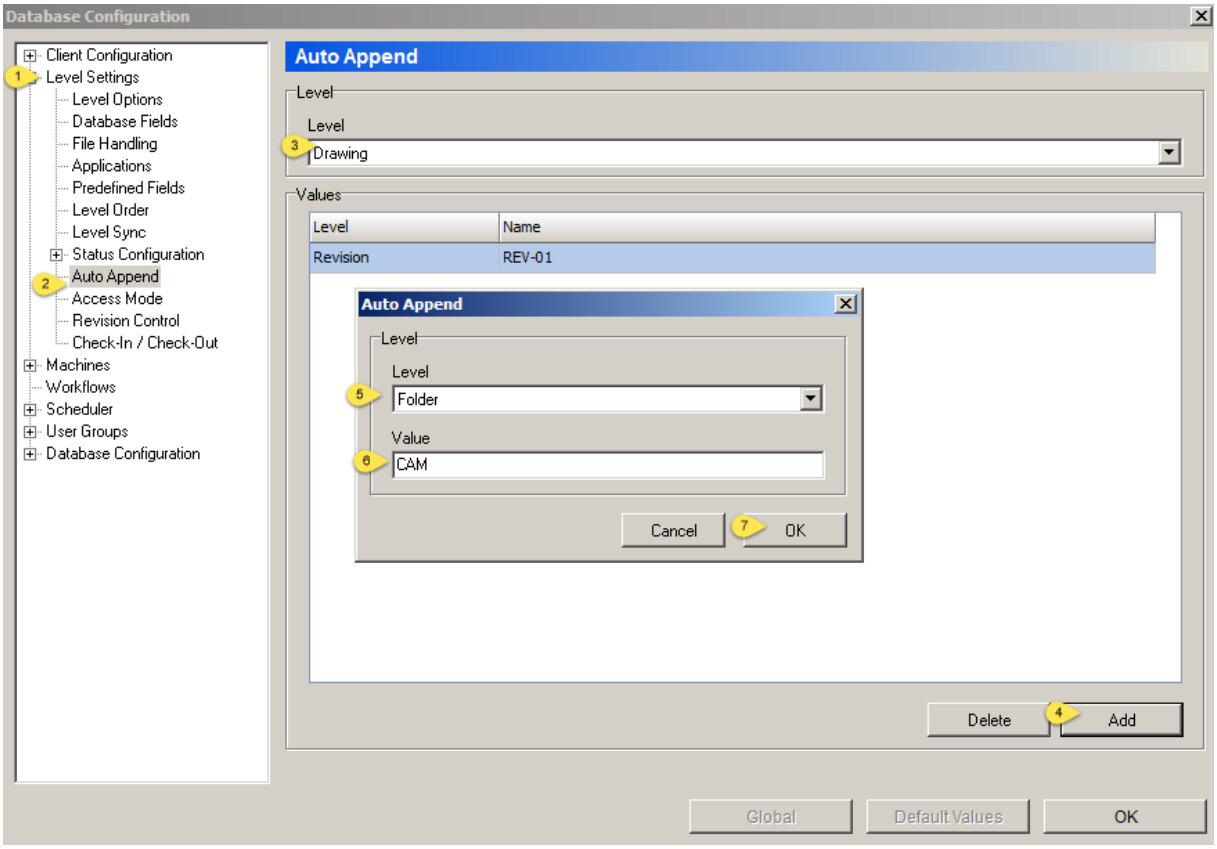
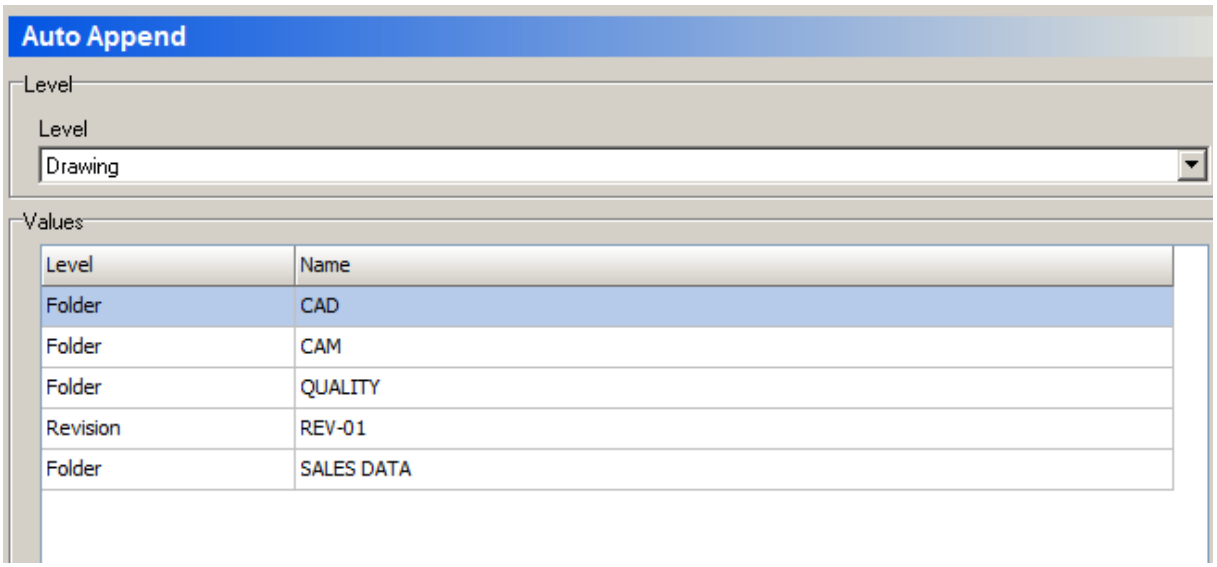
We will now return to the Auto Append configuration and create the remaining Folders levels. We will start with CAM as shown in the following screenshot.



Then use the same method to create the Folder levels CAD, QUALITY, and SALES DATA. The result will look like this.



Click the **OK button** to save and close the configuration. Log off and back on to make sure the changes take effect. Find or create a new Customer and then add a new Drawing.

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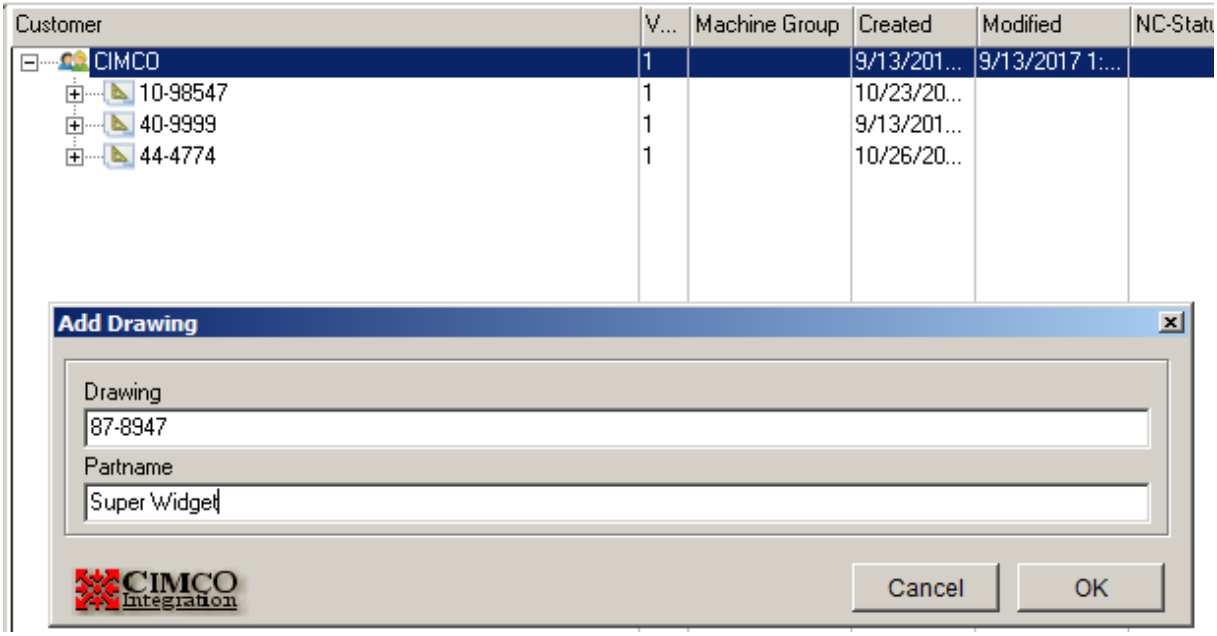
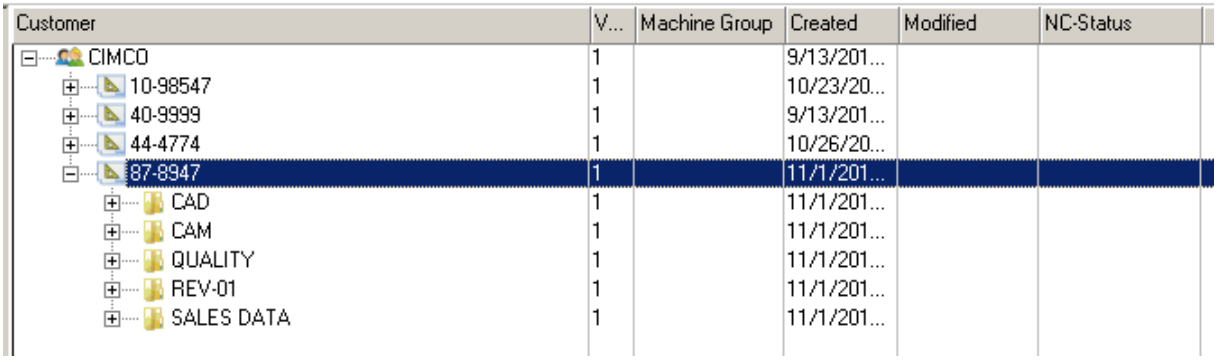


Expand the newly created Drawing level to see all of the auto-append levels which have been generated automatically.



Keep in mind that normally these Folder levels would be unique Levels to enable full control over what kind of levels/files can be stored in them.

This exercise was designed to show you what is possible and how to use Auto Append. You can delete all these Folder levels **except Revision** under the Drawing level if you are using this for a customer or demo installation.

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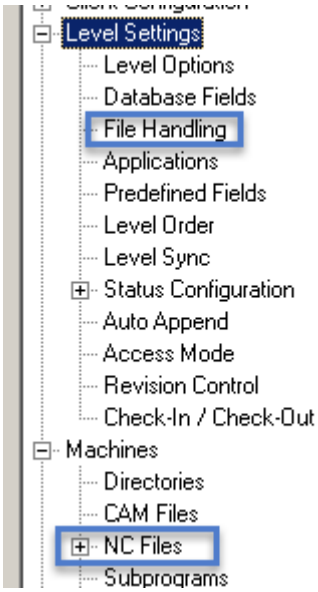
11. Setup File Handling

File handling allows for the customization of file names being auto-generated by MDM. Most of the configuration takes place in **Level Settings** > **File Handling**. However, a recommended setting for the **NC-File level** is to enable the option **Use machine settings** which defers file handling to the **NC-Files** settings under **Machines**.



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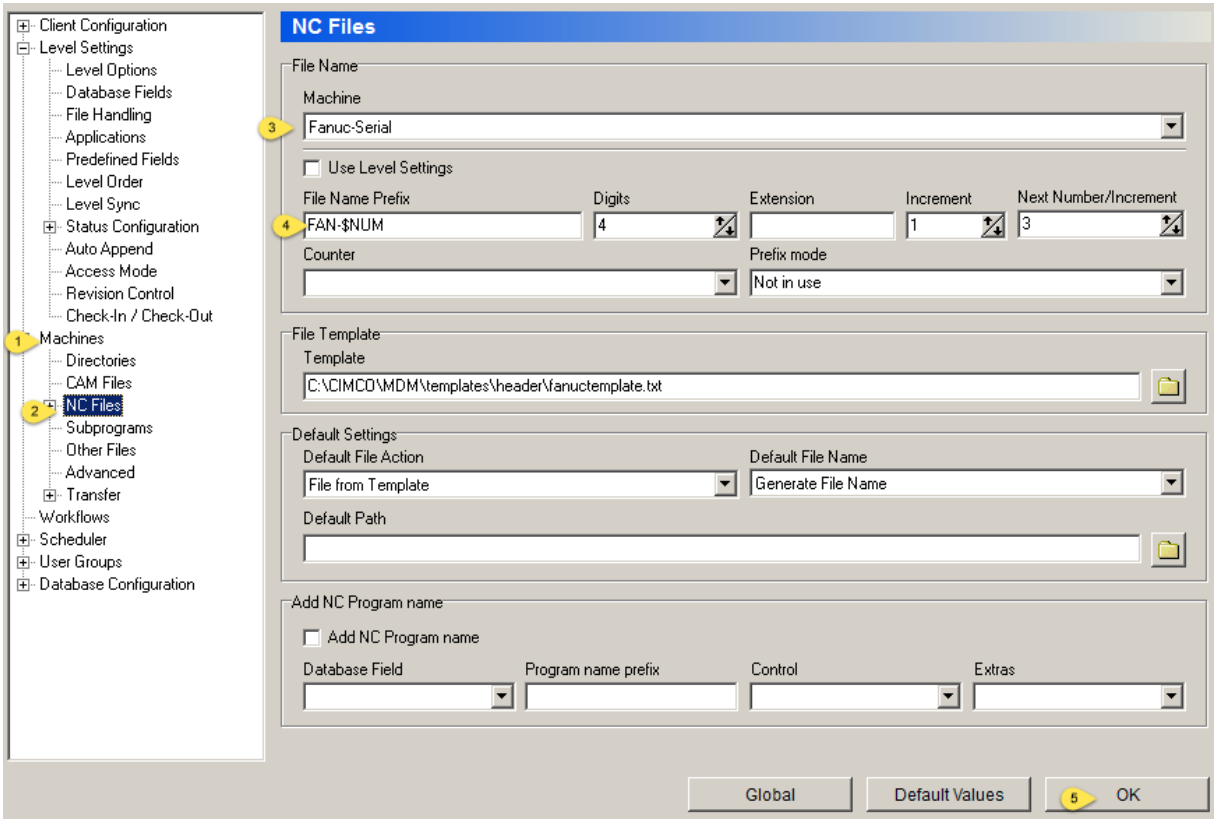
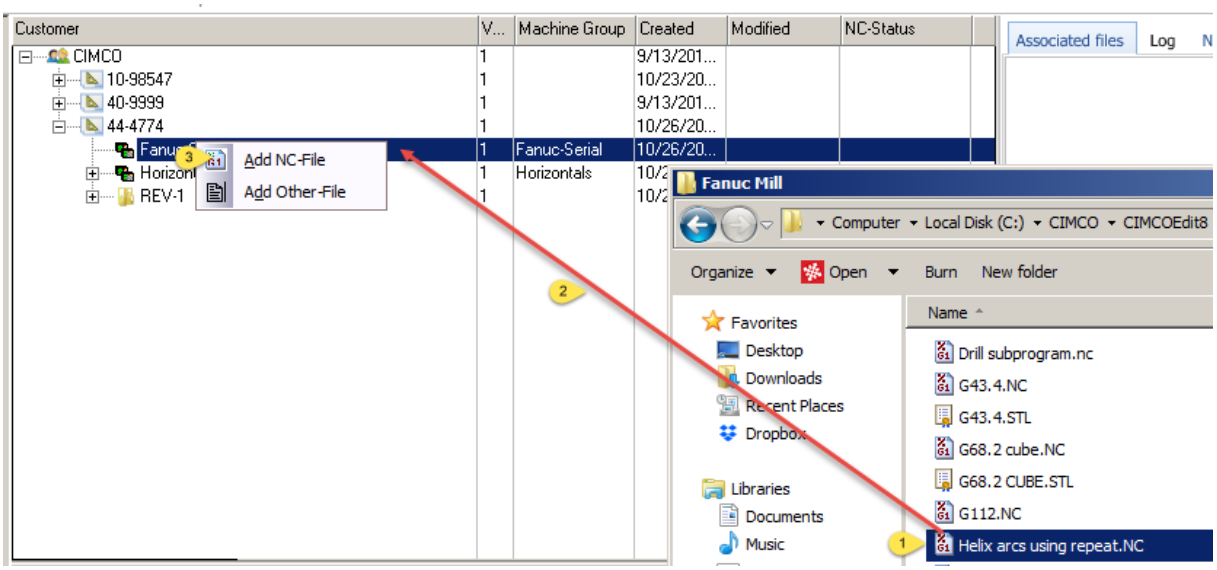
11.1. Using Generate Filename

We will begin by looking at the NC-File settings under Machines. We will start by selecting the **Fanuc-Serial Machine** (Machine Group) and customize NC filenames so "**FAN-**" is automatically added in front of our $NUM (which is a 4 digit auto-incremented number determined by the Digits field). Follow the steps in the screenshot below. Click the **OK button** to save and close when done.



Now drag an NC file to the Fanuc-Serial level and select **Add NC-File**.



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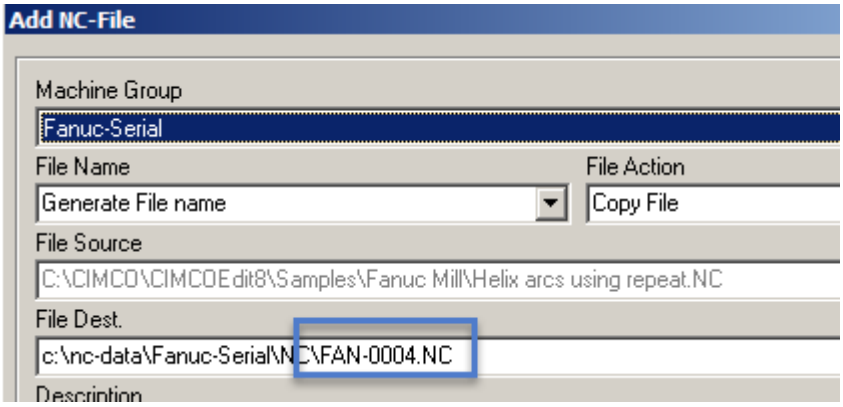
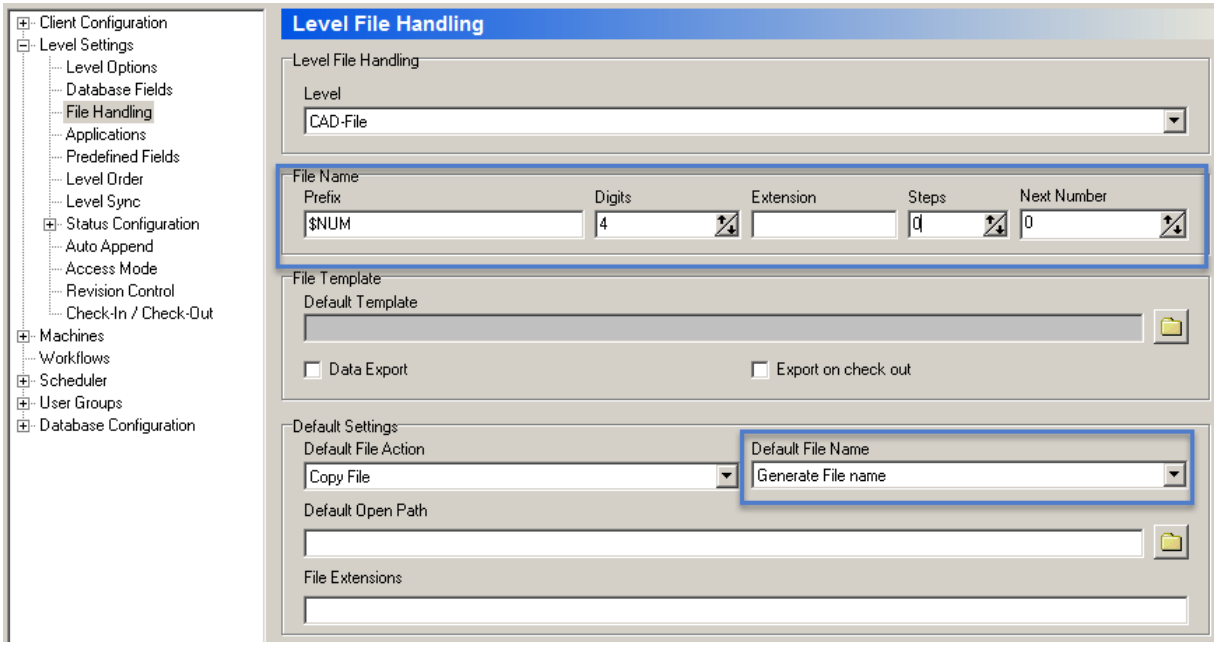
You will see that "**FAN-**" is now automatically added to the front of the filename.



In our example this is somewhat redundant, because we have already added a Machine Group level to differentiate our files.

Next we will look at another example to see how this function works using additional variables. We will customize the CAD-File level to generate filenames that include the Drawing and Revision numbers.

Go to **File Handling** in the Database Configuration, select the **CAD-File level** and create a simple 4 digit number that increments with each new CAD file added. To do this enter the prefix **$NUM**, **4 Digits** and **Steps at 0** which allows the number to be generated. The settings for this basic example can be seen in the screenshot below.



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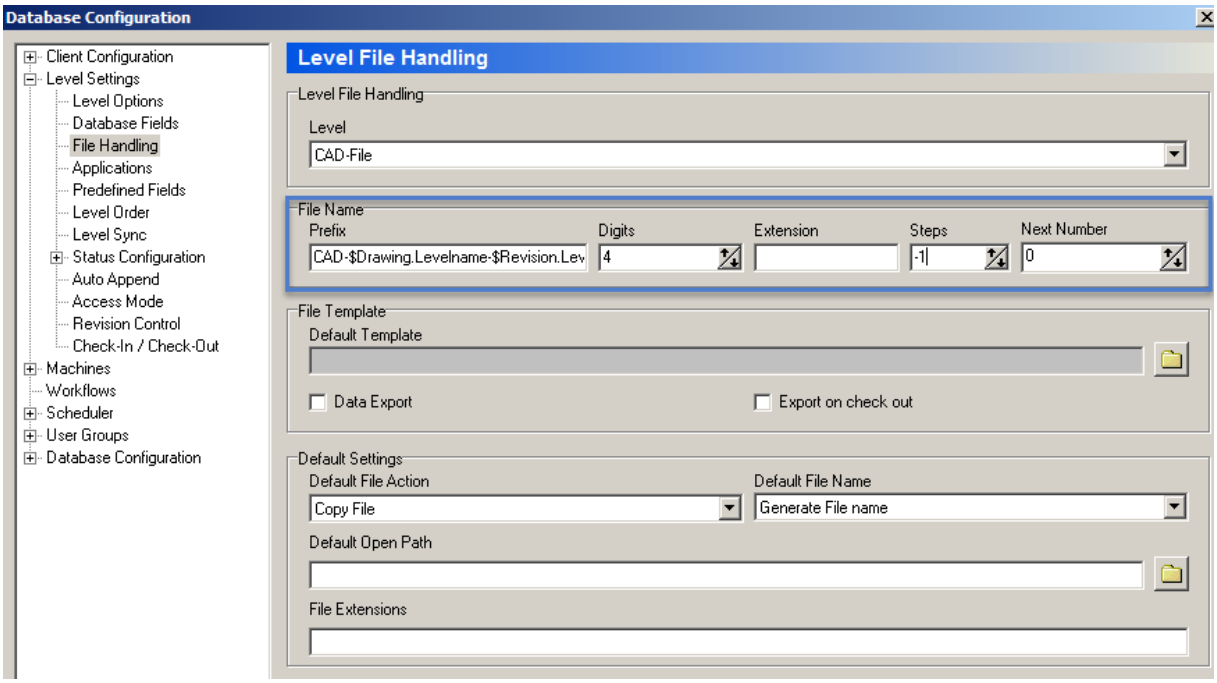
Now let us do something a little more defined to included the prefix "**CAD-**" as well as the Drawing number and Revision in the name. The Prefix for the CAD-File level should be the following:

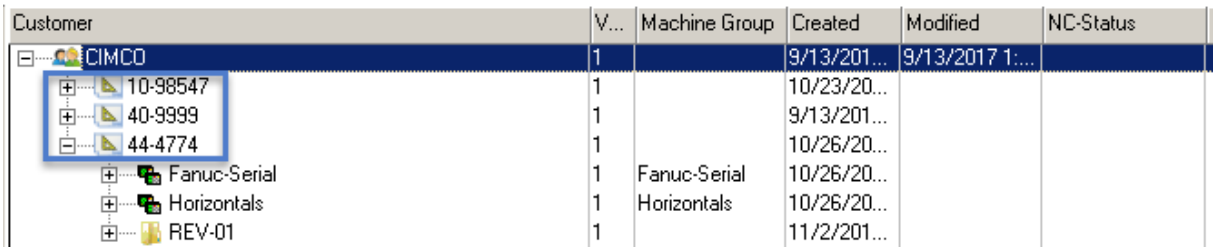
CAD-$Drawing.Levelname-$Revision.Levelname

In our examples here we cover **Steps** at **-1** and at **0**, however there is one other option. Steps set to **1** makes it a global counter, meaning it covers all files created system wide for that level. This ensures the numbering of CAD files is unique, which would be desirable if using only a number as their filenames.

In the following screenshot **Steps** is set to **-1** which disables the stepping. This is because we are not using the $NUM variable - we are not adding a number to the filename.



In this case the file name will always start with CAD- then it will look at the Drawing levelname.



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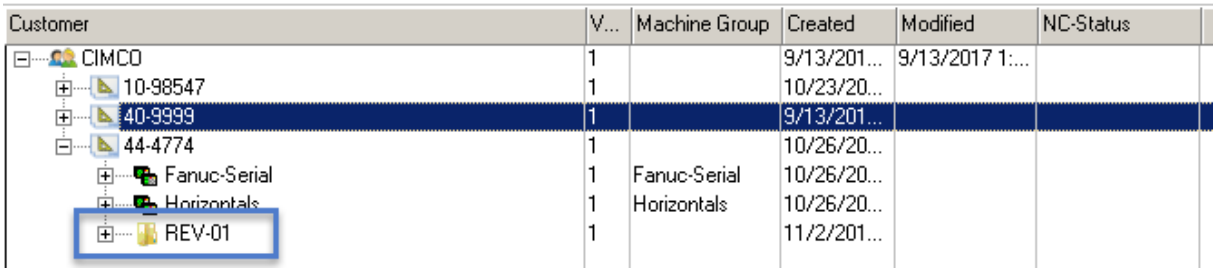
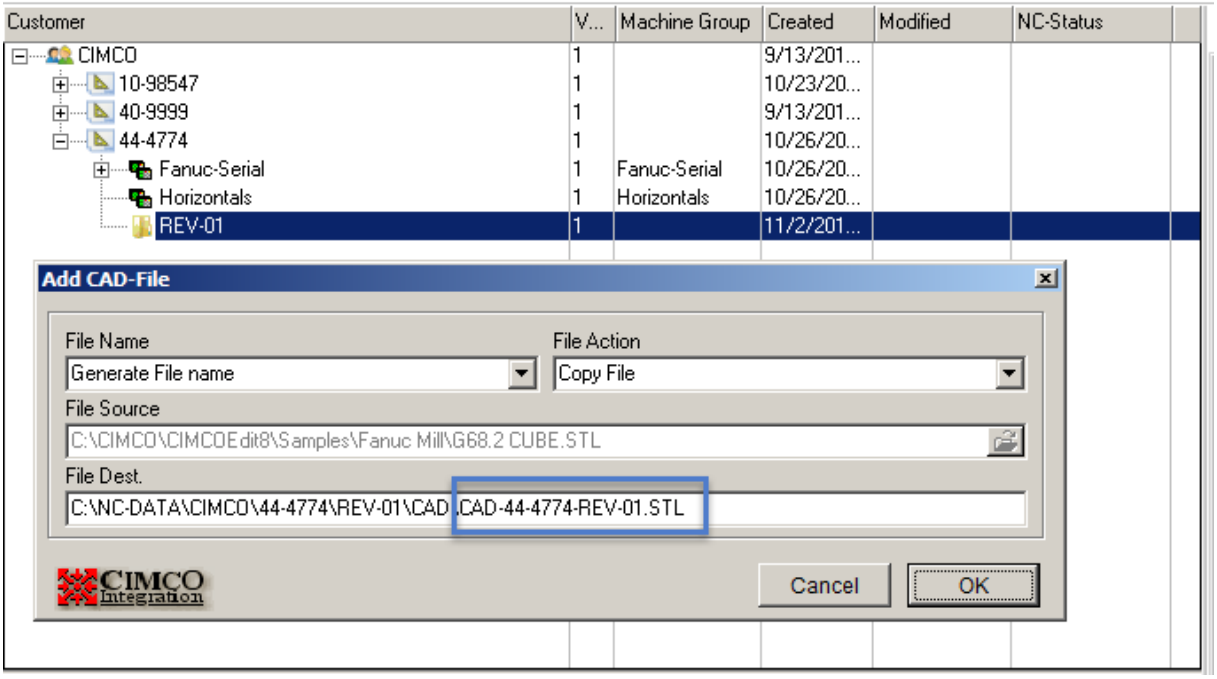
Followed by the Revision levelname:



When a file is now added to REV-01, the resulting filename looks like this.



Prefix format: CAD-$Drawing.Levelname-$Revision.Levelname

Prefix format meaning: CAD - (Drawing number) - REV- (Revision number)

Resulting filename: CAD-44-4774-REV-01.STL

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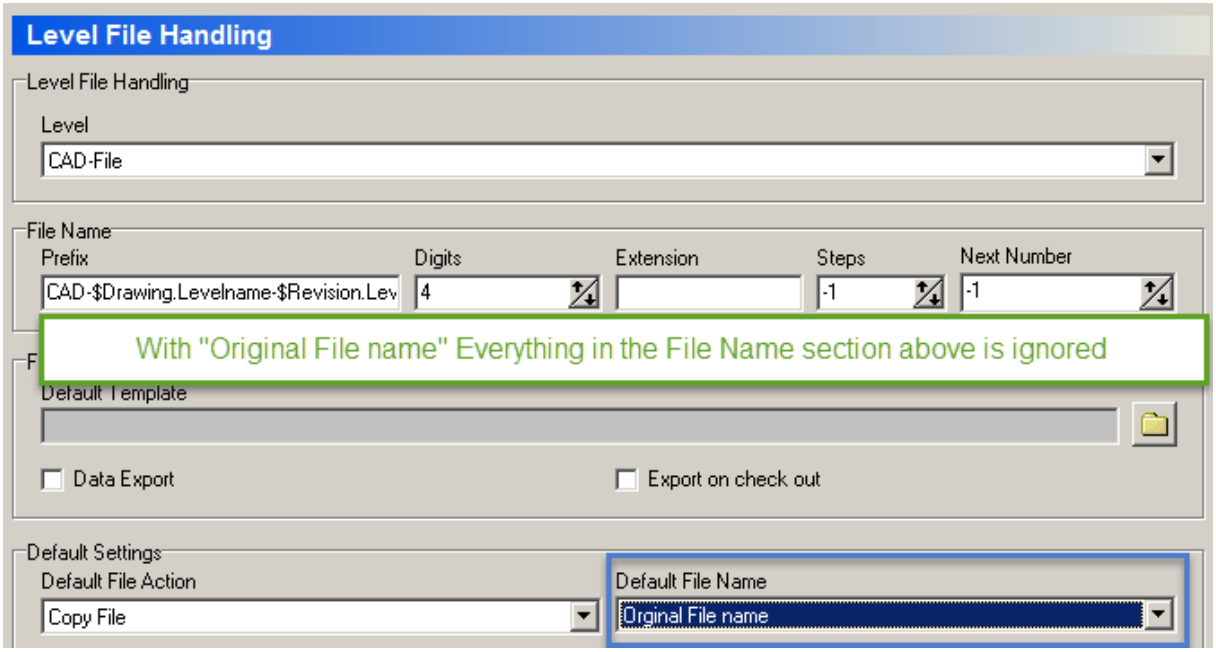
11.2. Using Original Filename

Some customers may want to keep it simple and just use arbitrary or existing file names. By setting the Default Filename in either **Level Settings** > **File Handling** or **Machines** > **NC-Files** you can make this possible.

This is an extremely basic way to use MDM and not desirable if you are trying to maintain some kind of consistency throughout your structure/hierarchy all the way down to the file level. When using the default value of **Use original filename** the other parameters are ignored and the filename is unchanged.



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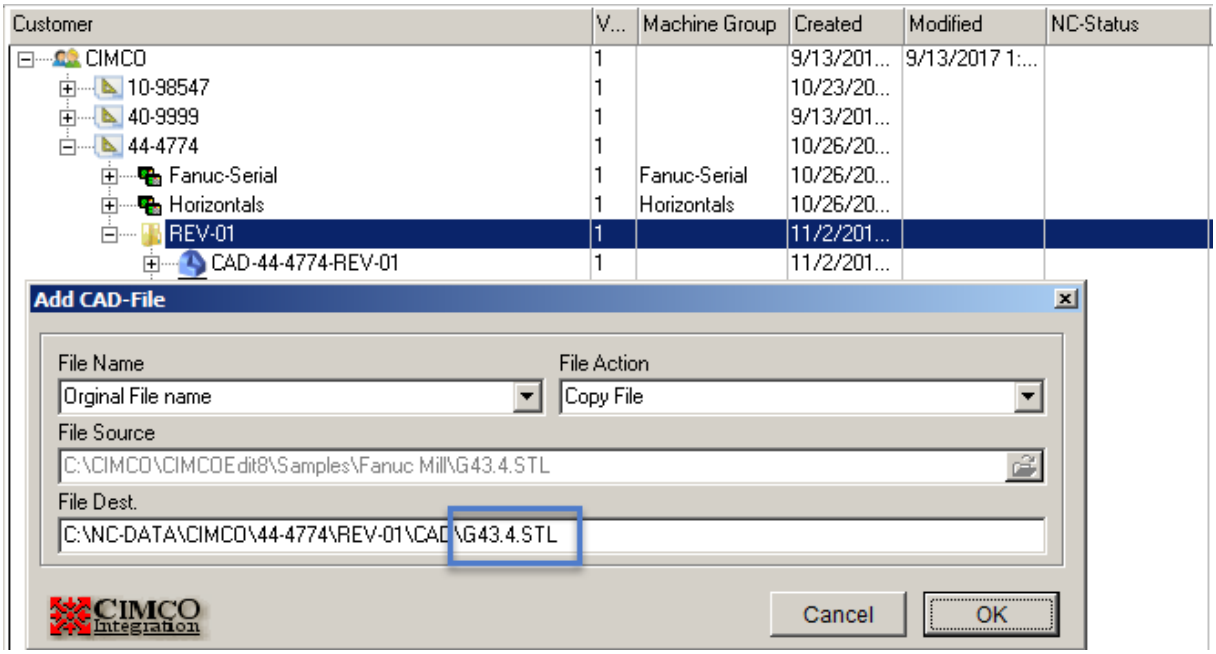
See for example when we add **G43.4.STL** from the CIMCO Sample files, the original name is used.



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12. Setup level specific applications

There are three ways you can determine what application loads when you open a file in CIMCO MDM. In the following we will look at these.

12.1. Using the default Windows Viewer

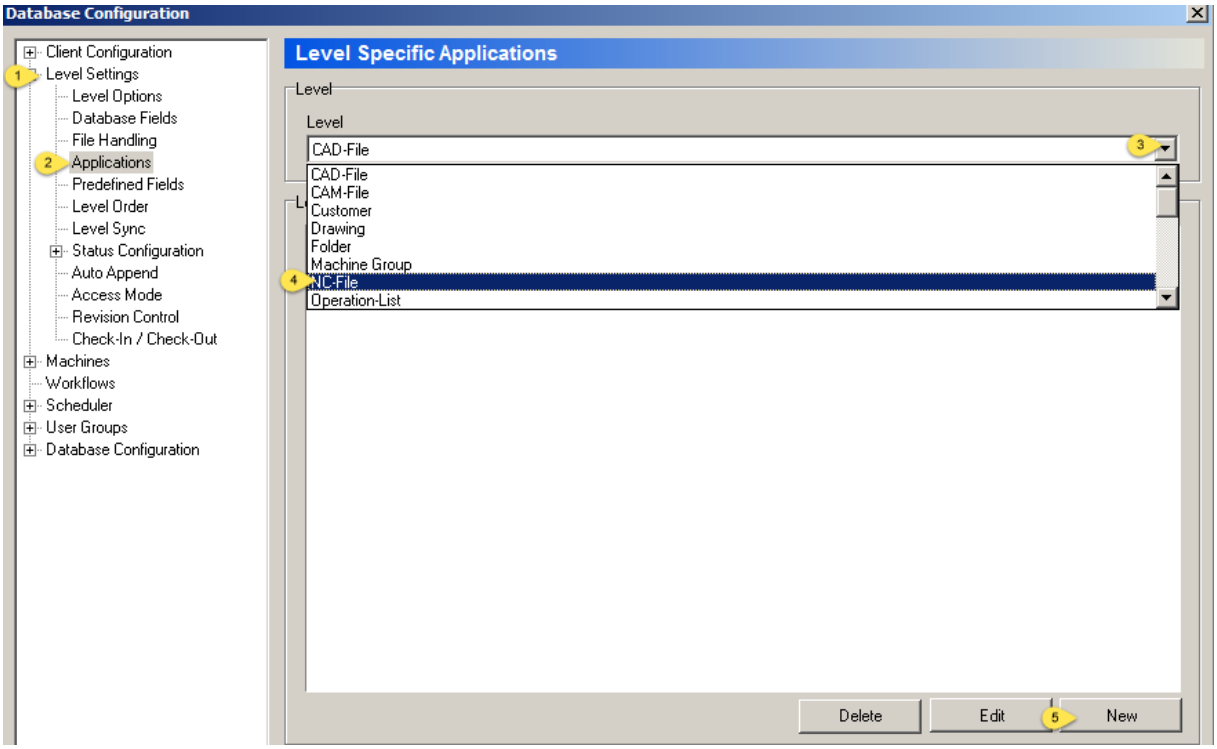
If you do not specify any Level or Client application settings, Windows will default to whatever the default viewer is for that file extension. This is not always ideal, particularly with the NC-File level, as there can be many extensions such as .min, .txt, .cnc, .tap, .h, .i, etc. Unless you have a viewer with all utilized extensions registered you will need to associate each new format every time one comes up. To minimize the impact on your users and to encourage consistency, we recommend you use either **Client Settings** or **Level specific** settings as described below.

12.2. Using Client settings

The CIMCO MDM Client Settings give you the ability to specify applications for specific file types. Please refer to the Client Settings (page 99) in this document for details on configuring the MDM Client application defaults.

12.3. Using Level Specific Application Settings

The most powerful and flexible way to specify application settings in CIMCO MDM is utilizing the level specific application settings. Let us first take a look at what is available by opening the Database Configurationand going to **Level Settings** > **Applications**. We will start with the NC-File level in the dropdown menu and click the **New button**.



This brings up the **Level Specific Applications** dialog for the NC-File level. We are going to add two applications to this level so the user has the option to open the file with **CIMCO Edit** or with **Notepad**. This could be useful if they just want to make a quick edit in the comments or the like

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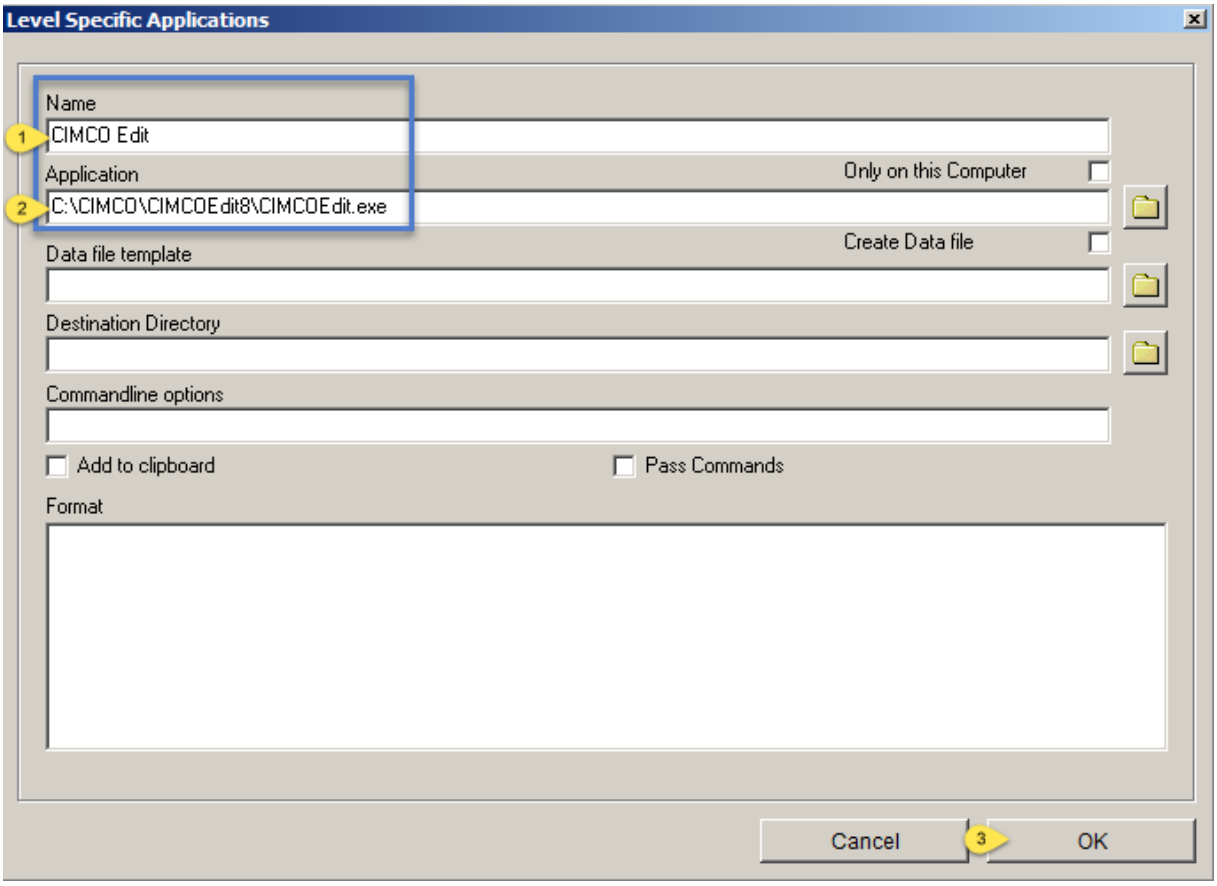
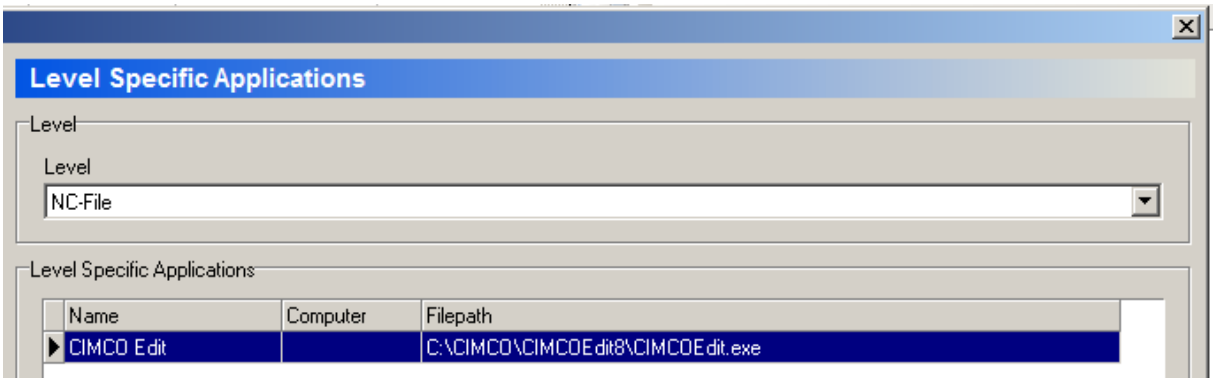
and do not want to take up a seat of CIMCO Edit. Here is a simple configuration with the name **CIMCO Edit** and the path to the editor executable. It applies to all computers (not just the server computer, so **Only on this Computer** is not enabled) and does not include any advanced features. Follow the steps in the screenshot below.



The list is now updated and contains a level specific application called CIMCO Edit.



Had we enabled the option **Only on this computer** we would see the name of the PC listed in the **Computer column**.

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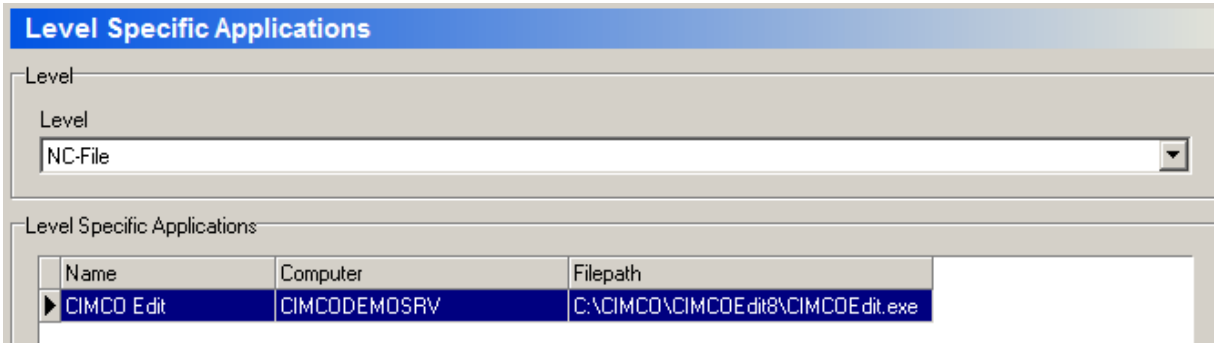
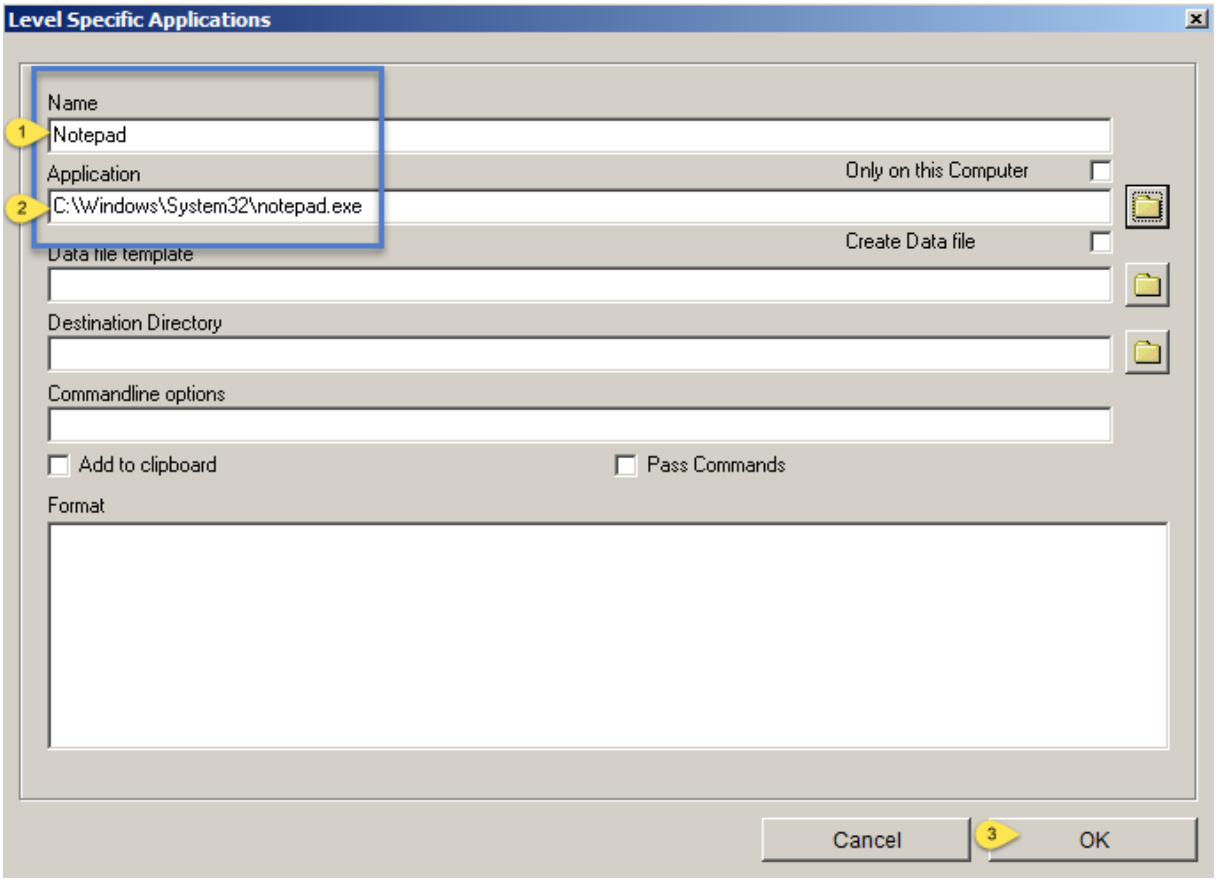


Now let us add another one for Notepad by clicking the **New button** again.



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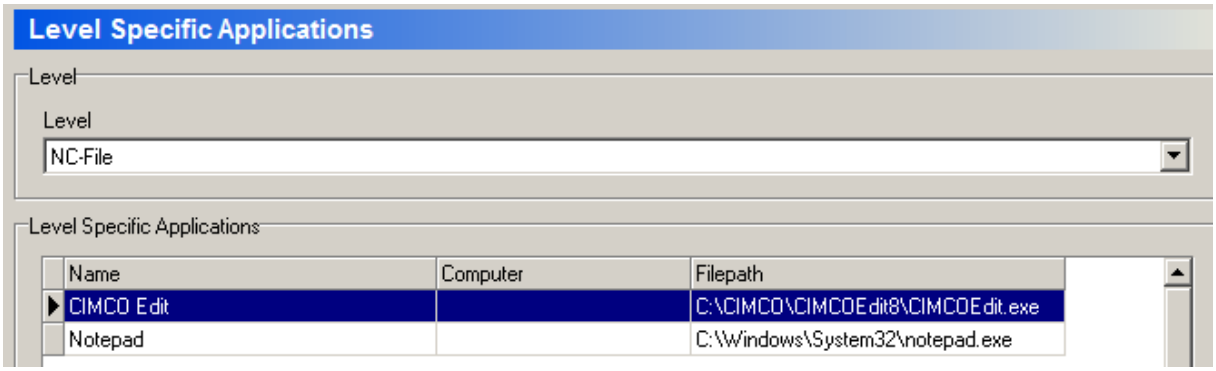
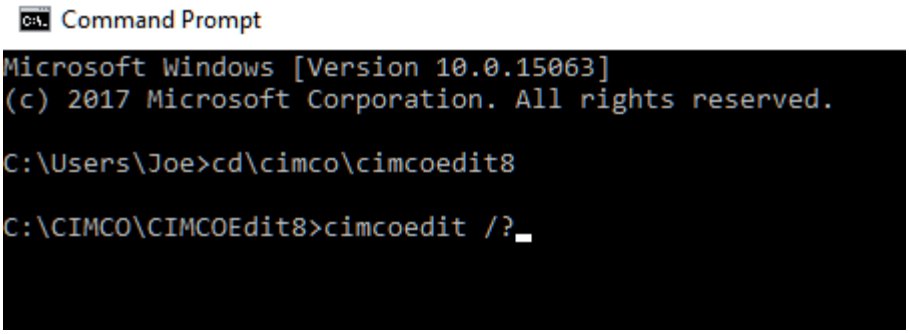
We now have two applications available.



Now let us get into the more advanced features a bit. We will start with a use case where you want to enable or disable a CIMCO Edit plugin such as Mazatrol Viewer in cases where there is a limited number of seats on the license and we do not want to take up a seat when opening a file.

We could check the Online Documentation to find the command line arguments, but there is a faster way that is universally recognized for checking for available command line arguments.

Open a **Command Prompt** by typing **cmd** into the command or run box in Windows. The resulting window will give you access to the Windows Command Line Interface. Now we need to type in two commands, the first gets us to the CIMCOEdit8 folder, the second asks CIMCOEdit.exe what command line arguments are available, you can use this procedure for any CIMCO program.



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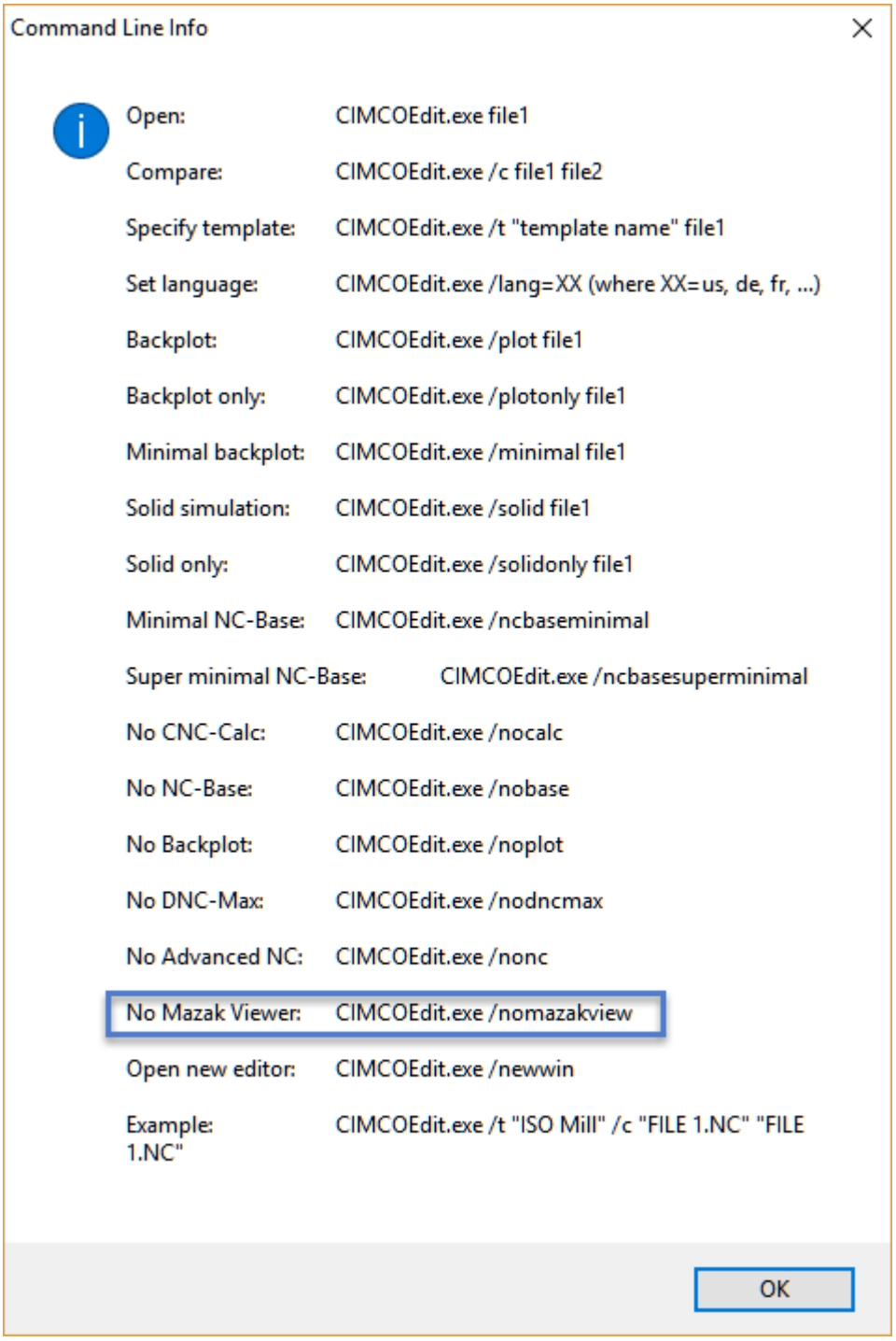
The resulting screen shows us all of the available command line arguments, including disabling Mazak Viewer using the command **/nomazakview**.



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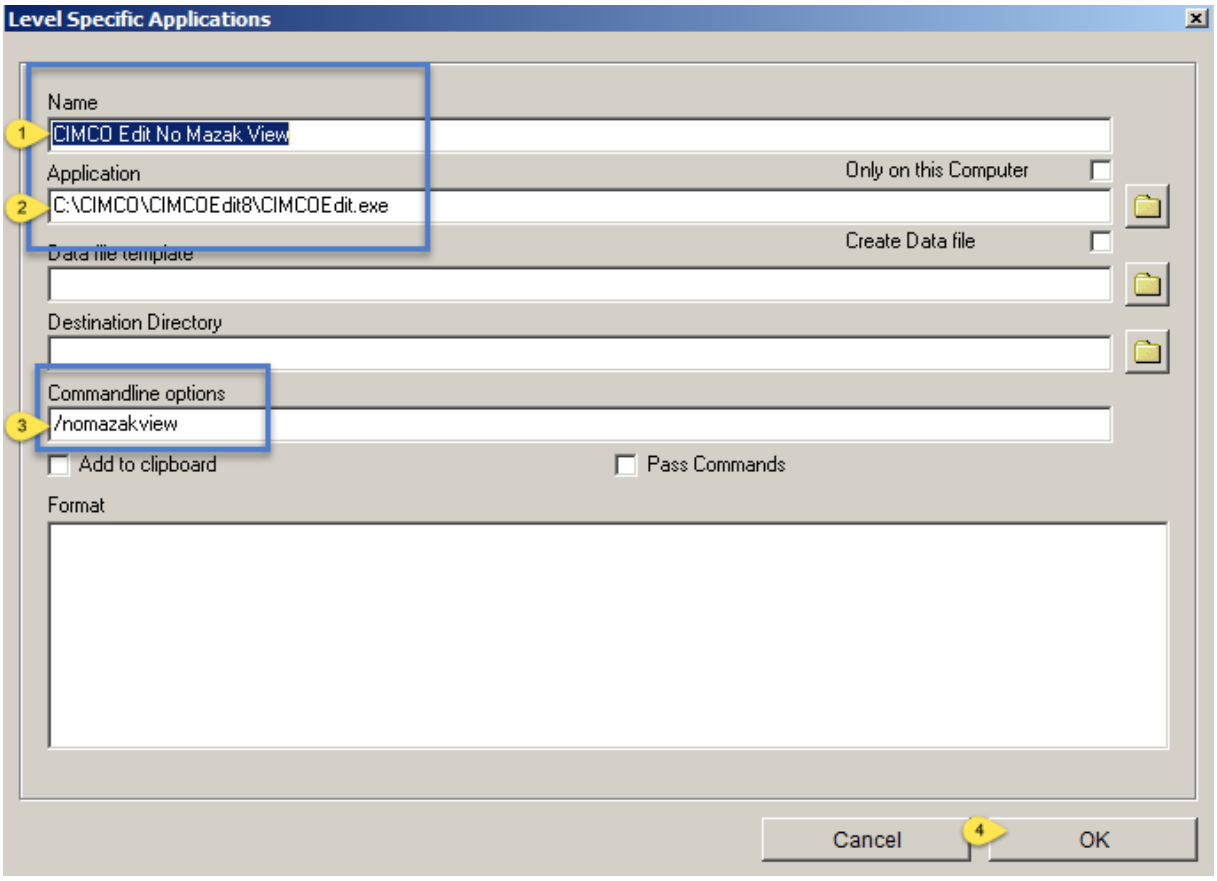
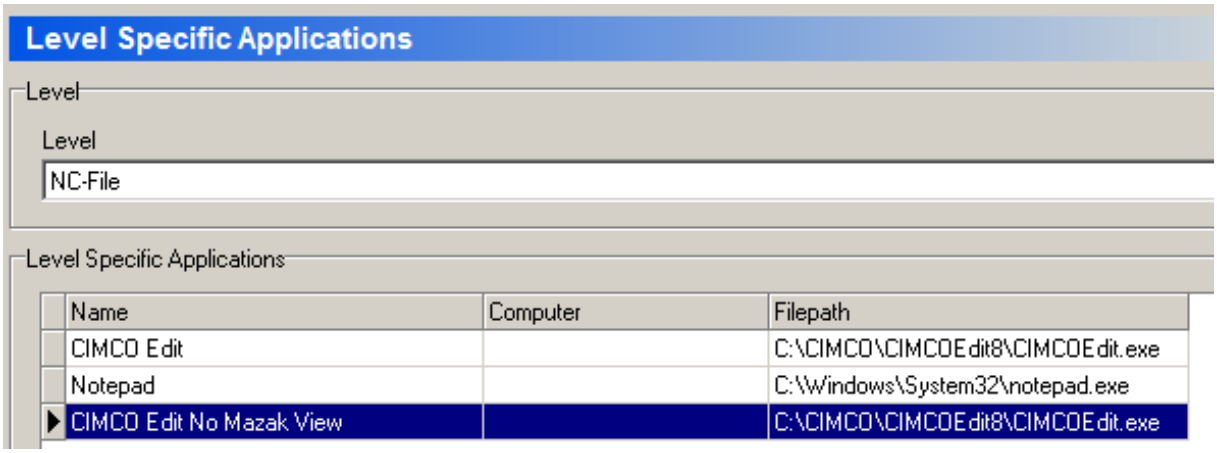
Now go ahead and add a new application and use this command line argument. Go back and click the **New button** again and do everything like before but this time add the **/nomazakview** under **Commandline options** and finally click the **OK button.**



We now have three applications available for the NC-File level.



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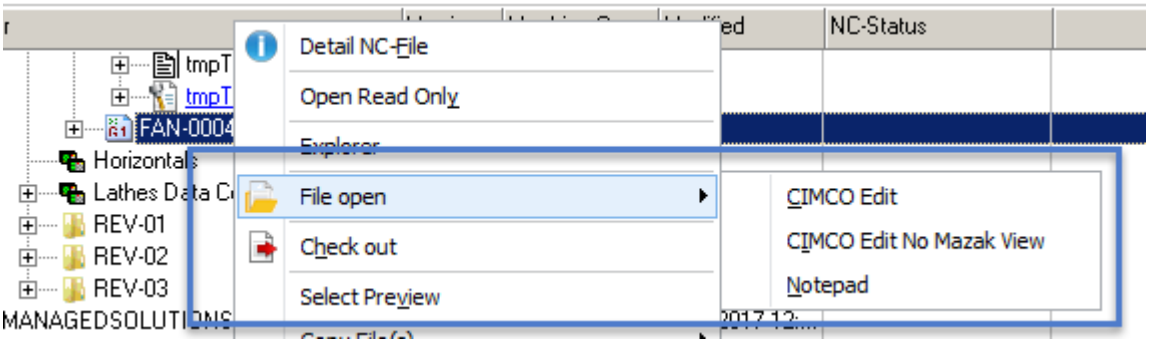
Click the **OK button** and go look up an NC file to see the changes. Right-click any NC file and notice the new menu available to open it.



Test each option and make sure it works as desired.

There are other use cases for this feature such as CAM software. You can use the CAM level for example to have your CAM software via plugin read information from a file generated using a template. In that template you can use variables like we do in the NC-Templates under Configuring Machine Groups (page 56) later in this document.

This can be useful to pass along Drawing number, Customer, and other information to the CAM software. This interface is quite powerful and provides a lot of flexibility to streamline the interaction of your MDM data with third party applications.

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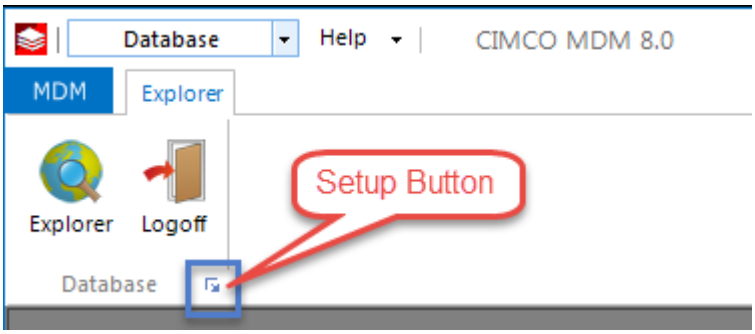
Configuring Machine Groups

1. Add new machine group

MDM controls how machines are handled using Machine Groups and ports. Machines in the same group typically have compatible files, e.g. they can run the same files natively or with some minor changes using send translators (addressed later in this document).

It is recommended that you have a thoroughly filled out machine list and discuss in detail the machine capabilities with your customer. They will know what needs to be changed for example to run a known good file for one machine on a similar machine.

To start configuring your Machine Groups open the Database Configuration. A quick way to do this is by clicking the small setup button as shown in the image below.



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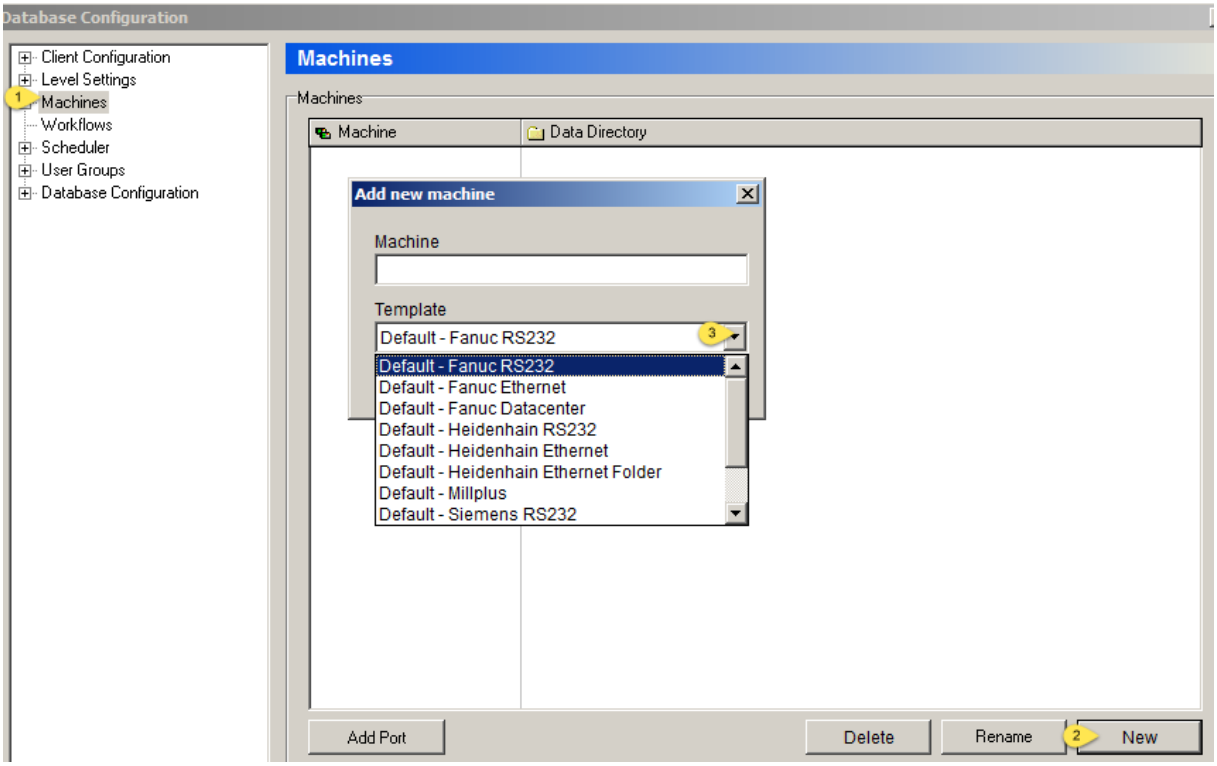
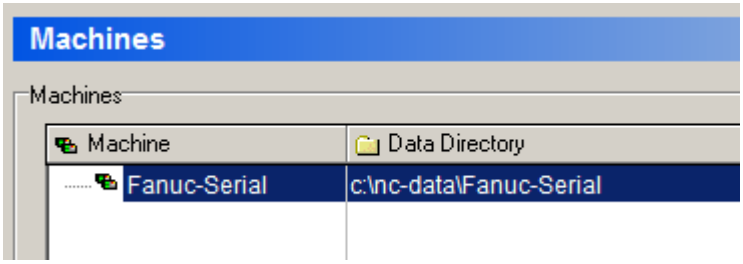
In the Database Configuration, go to **Machines** and click the **New button** to add a new Machine Group. In this group we will have Fanuc RS232 based machines, likely older machines.



We can now see our group in the list ready to have ports added to it.



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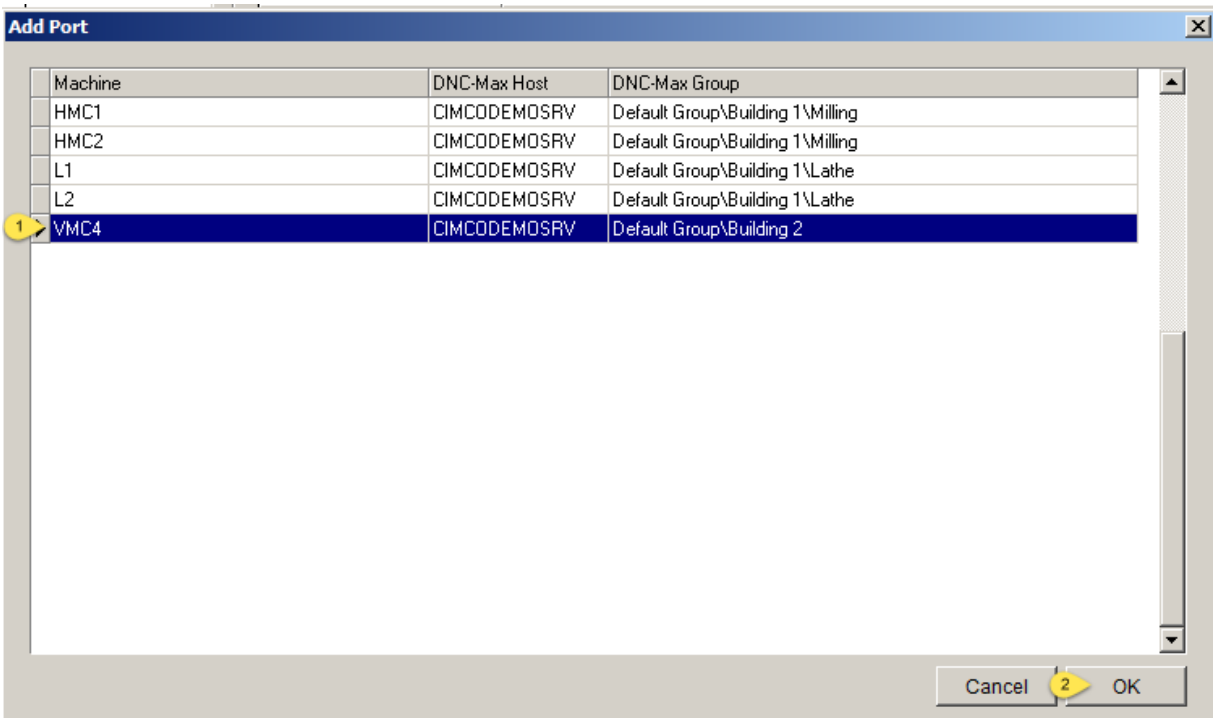
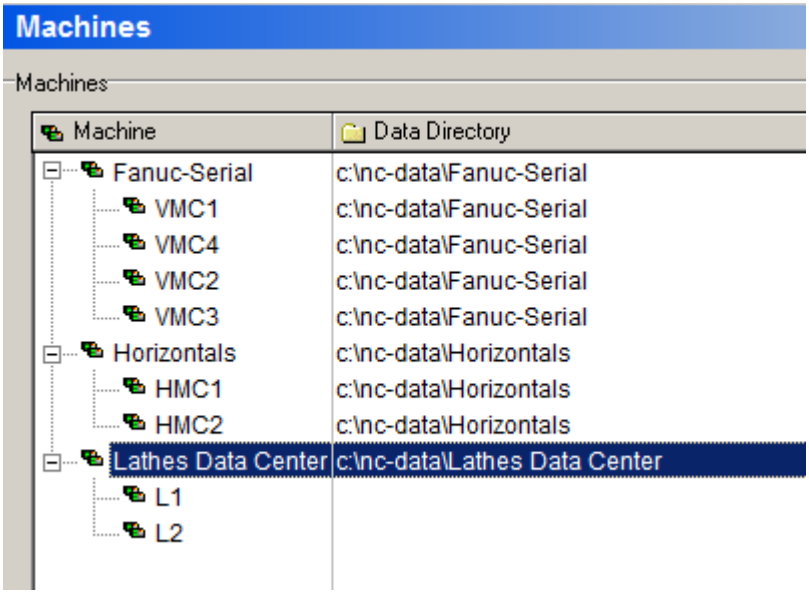
To add a port, **select the group** and click the **Add Port** button. This is adding an actual machine/port from DNC-Max to be handled by the settings and rules for the Fanuc-Serial Machine Group:



The machines added will now show up in our group. Create additional groups as needed and add the ports to them. Then you will be ready to move on to the next steps.



2. Setup Tool Triggers

When using the built-in templates to add Machine Groups you will notice that the Tool Triggers are pre-configured for those machine types. You can view and adjust these settings by going to **Machines** > **Advanced** and selecting the group in the **Machines** dropdown menu.

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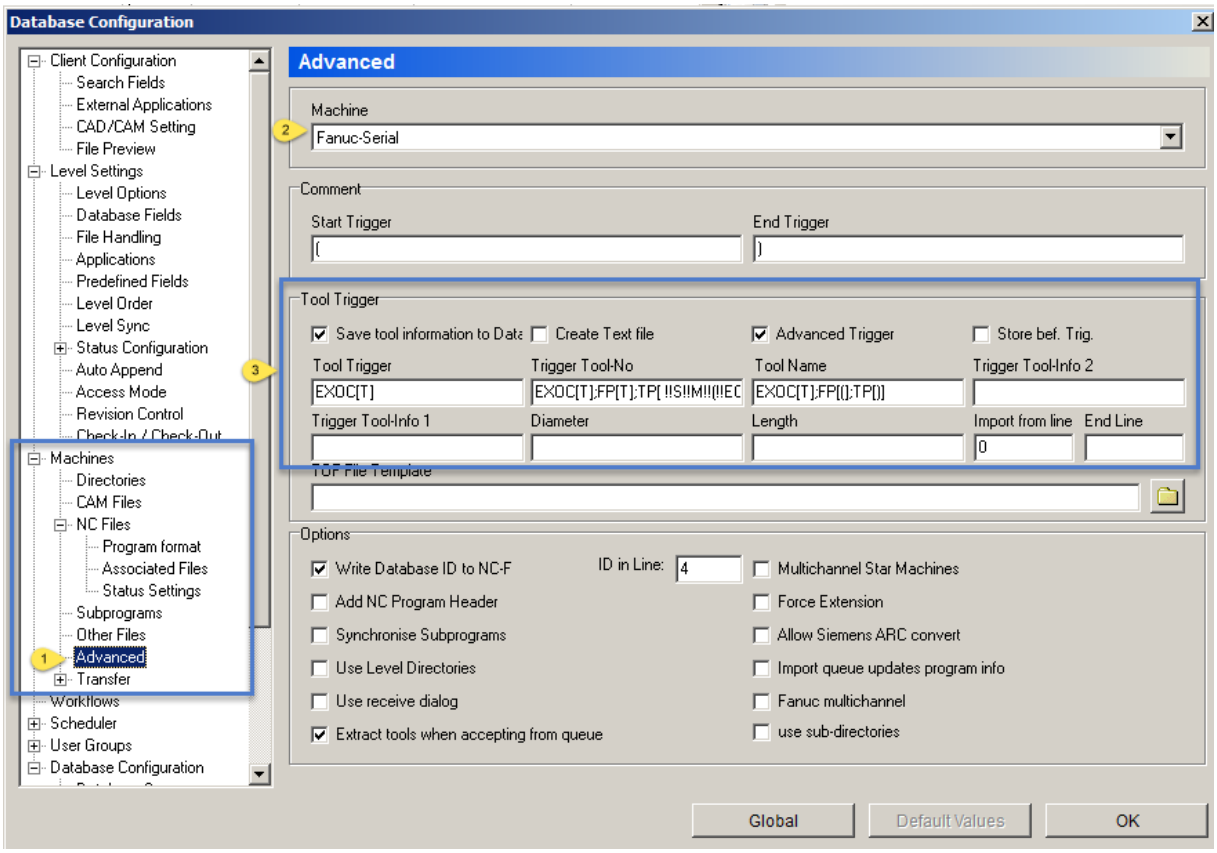

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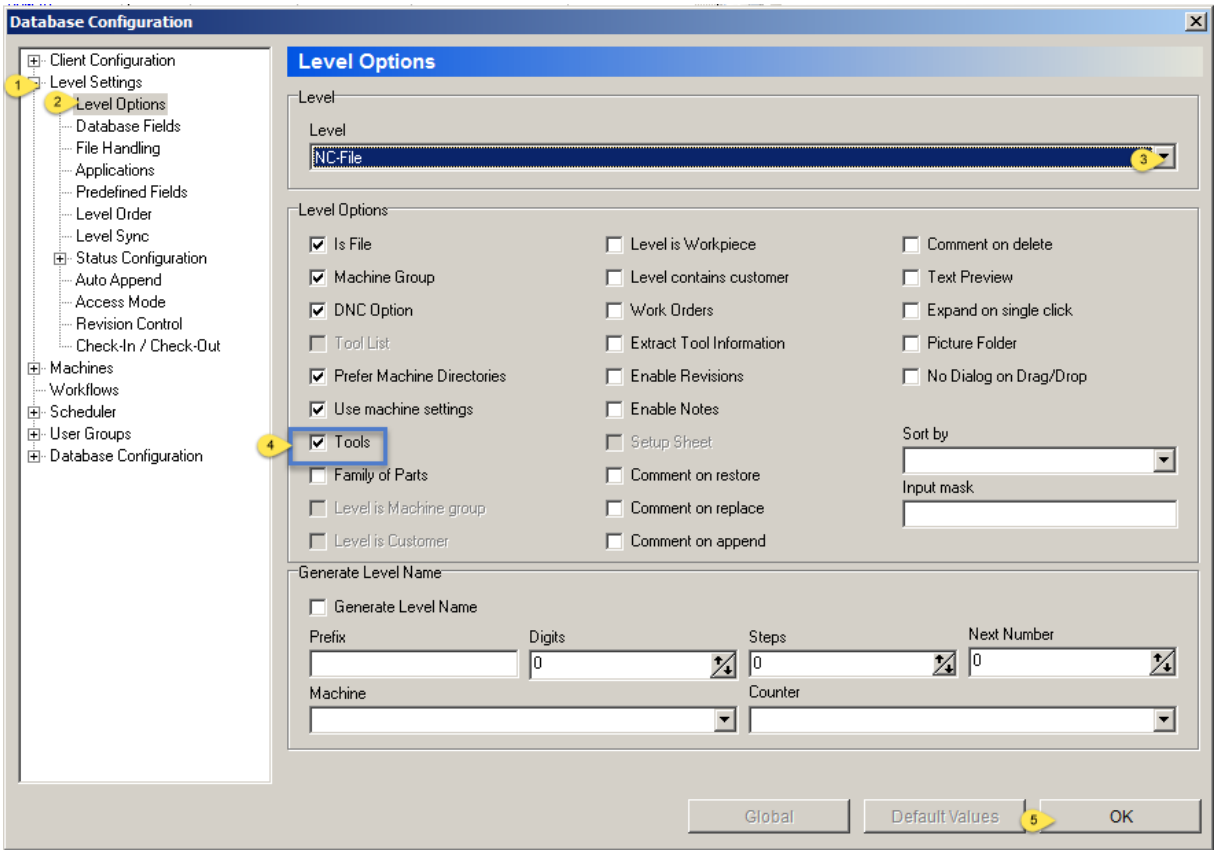
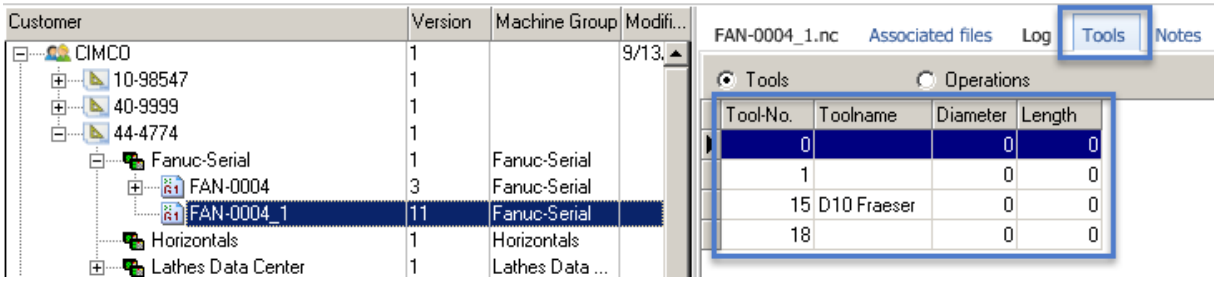
There are some additional steps involved to take advantage of this feature. For starters, you must go to **Level Settings** > **Level Options**, select NC-File from the Level dropdown menu and enable the option **Tools** as pictured below.



Once the above option has been enabled, you will see a Tools tab in the MDM Client when selecting NC files as pictured below. The Tools tab shows the tool information that is extracting from the NC file using the Tool Trigger settings.



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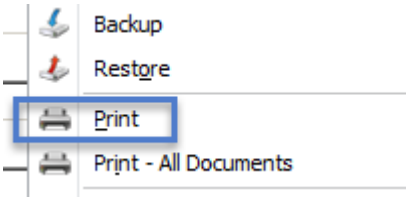
To extend the capabilities further, make sure you format the tools in your NC files with an accurate description, such as:

T56 M60 (Drill 8mm)

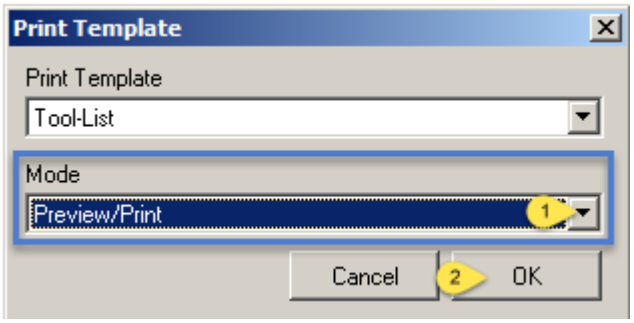
In this case, the Toolname in the Tools tab would display as Drill 8mm for Tool number 2.

Now that we have these options configured, we can also add the tool list to the MDM Client or print it out. If you recall when we setup the NC-File level, we included Tool-List level as one of the possible file types. If this has not yet been included, go to **File Setting** and add it as an Allowed sub-level for the NC-File level.

For starters let us print it, right-click an NC file and choose **Print**.



Then select **Preview/Print** and click the **OK button**.



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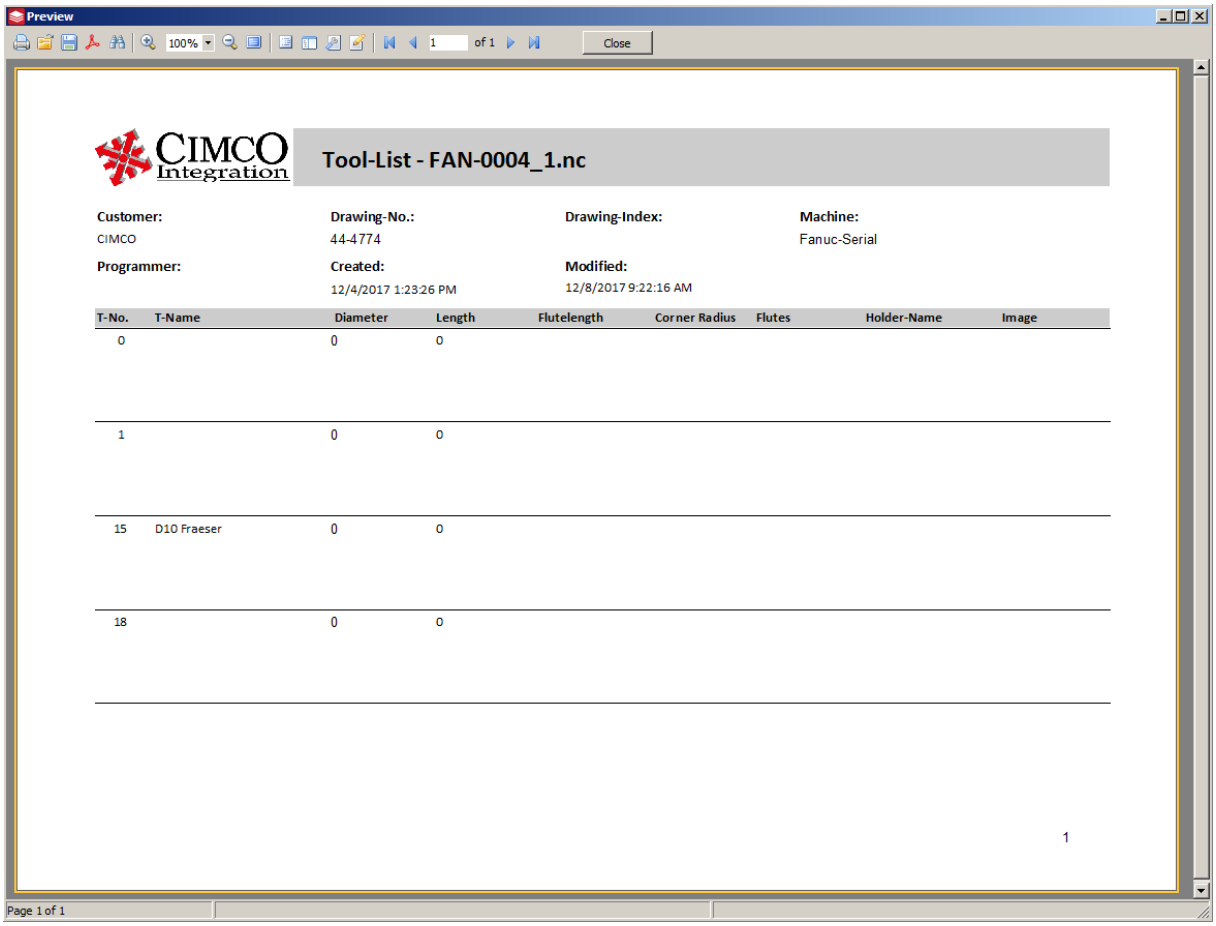
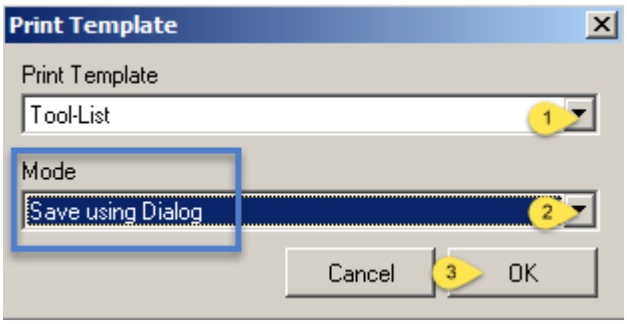
The resulting screen will allow you to preview the file, print, save, or export as PDF.



Alternatively, you can use the same print dialogue to create the tool list within MDM. Select **Save using Dialog** and click the **OK button**.



In the dialog that follows be sure to choose **Generate File Name** or you may have a destination filename conflict - then click the **OK button**.

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3. Add NC-Templates and set up Header for NC files

With templates you can control the format and apply a consistent structure to NC files when they are added to the system, received in the Import Queue, etc.

This process involves creating a text file that will act as a template. Before doing this evaluate the information you want to be stored in the file. This can be accomplished by reviewing how the customer currently organizes their NC files either via the comments or looking at their folder structure.

For our example we are using a job shop type environment. The Customer level is the top level. So let us first create a new customer and follow the flow through the environment to see what information we will use for the template. Click the **Add** icon in the topmenu and **enter the customer information**.

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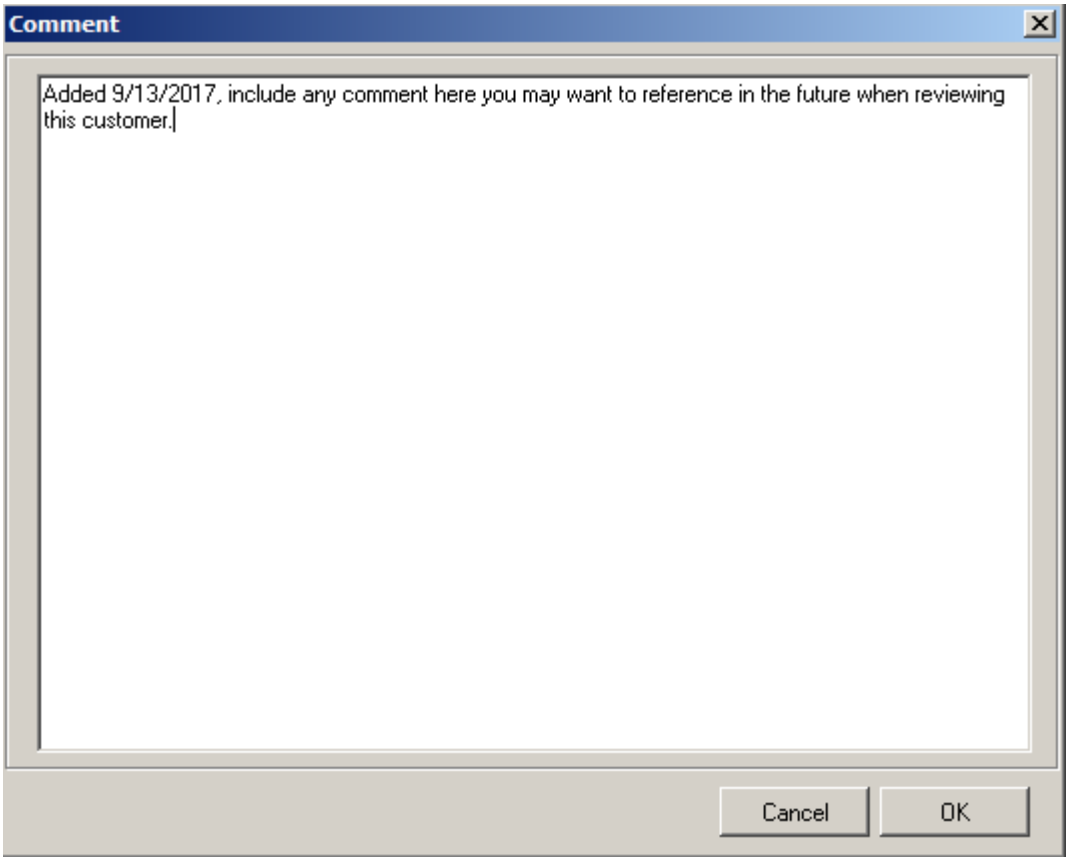
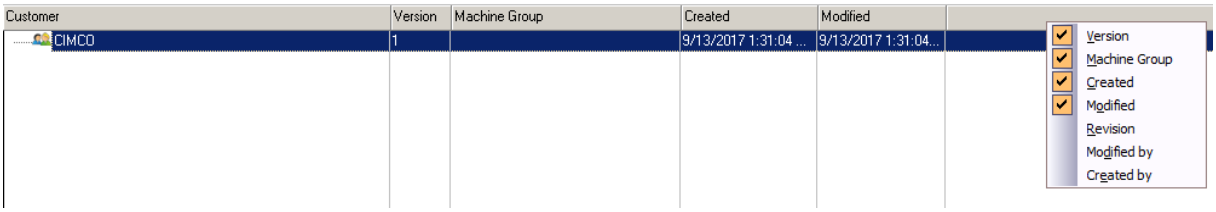
You will also be able to add a comment that will show up in the logs, etc, for this customer. Comments can be used to include important information about an event or process at any time. You will see this screen pop-up when doing most things in MDM.



The customer will now appear and we can add and view additional levels that can play a part in the template we are created for NC files.

You can show or hide columns in the interface by right-clicking the column-bar at the top.



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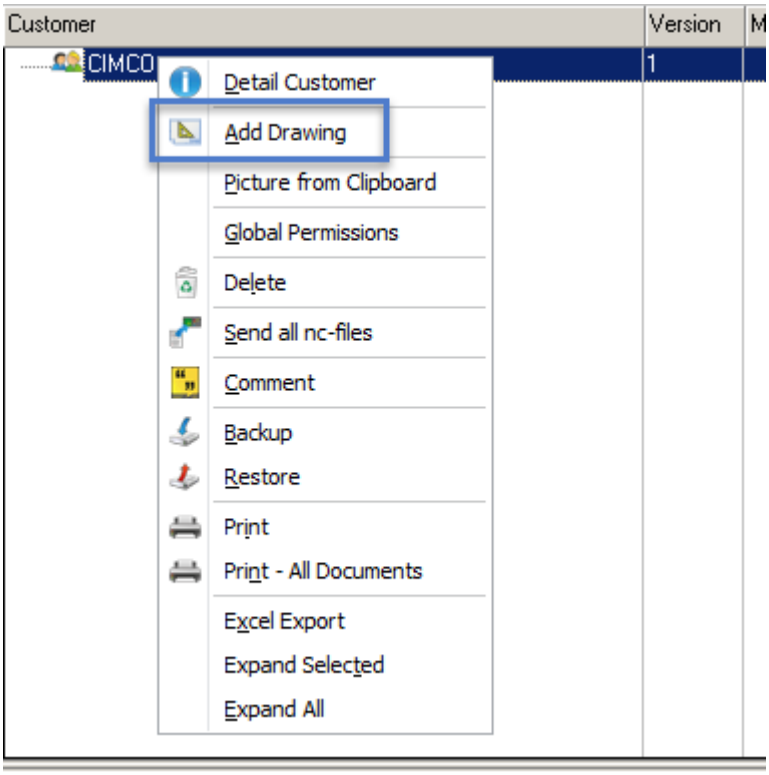
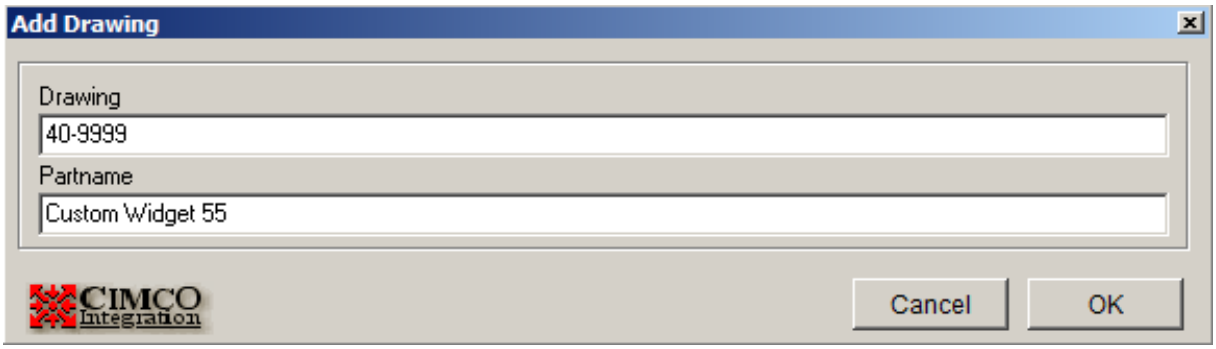
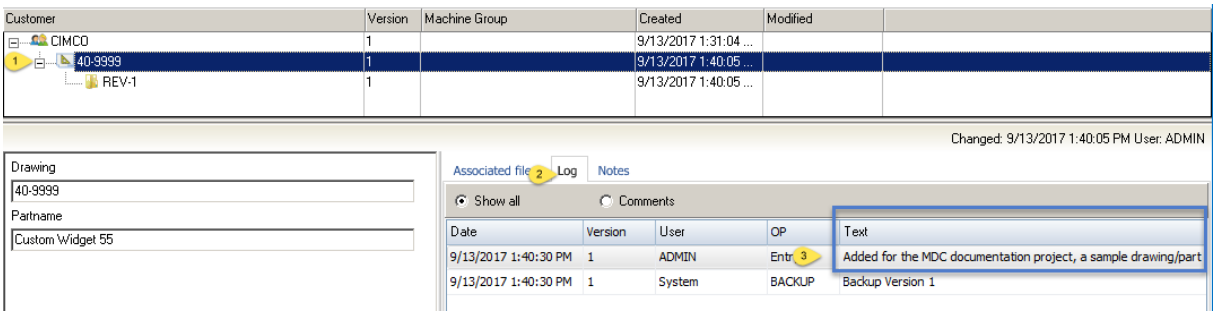
Right-click the customer you added and add a drawing which is the next level in our job shop setup.



You will then be prompted to enter a **Drawing number/name** and a **Partname**.



The result will be a drawing level with the level REV-1 created under it. Remember those comments we added? You can see where they are displayed by accessing the log for that level or entry as hown in the screenshot below.



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Before we add any NC files, we will create the template so our header information is handled properly. We are going to work off of 3 variables:

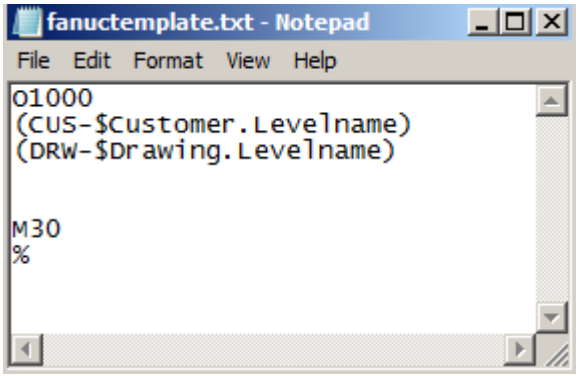
O####
(Customer)
(Drawing)

To do this we will create a text file using Notepad with the following content:

O1000
(CUS-$Customer.Levelname)
(DRW-$Drawing.Levelname)

M30
%

The variables such as $Customer.Levelname points to the levelname of the level to which an NC file is added. **Save** this file to **C:\MDM\templates\header** and name it **fanuctemplate.txt** since it will be sued for our RS232 machines we added in Machine Groups. The file should look like this:



We place the file in a new folder called header to avoid mixing it with the existing template files. After saving it, hold down the shift key and right-click the file - then choose **copy as path.**

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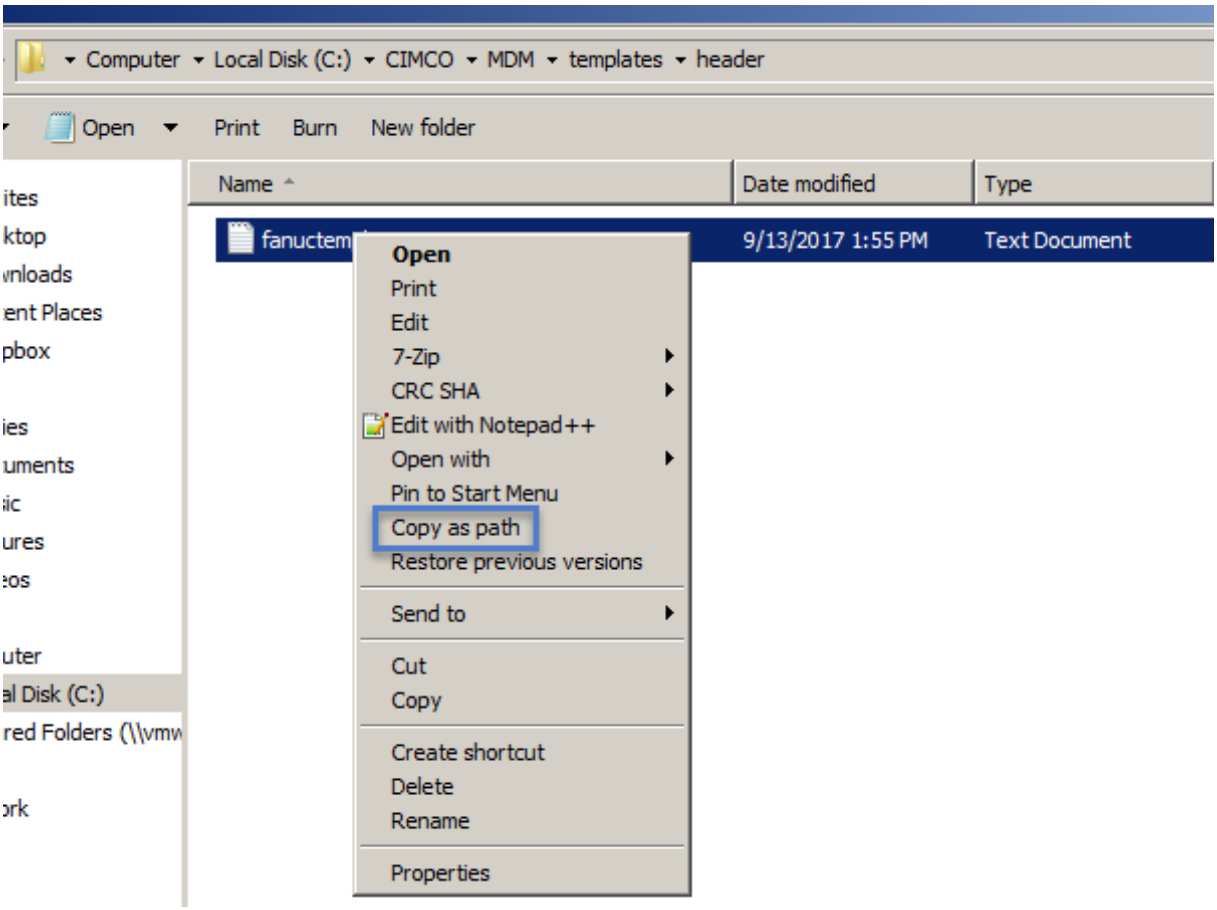
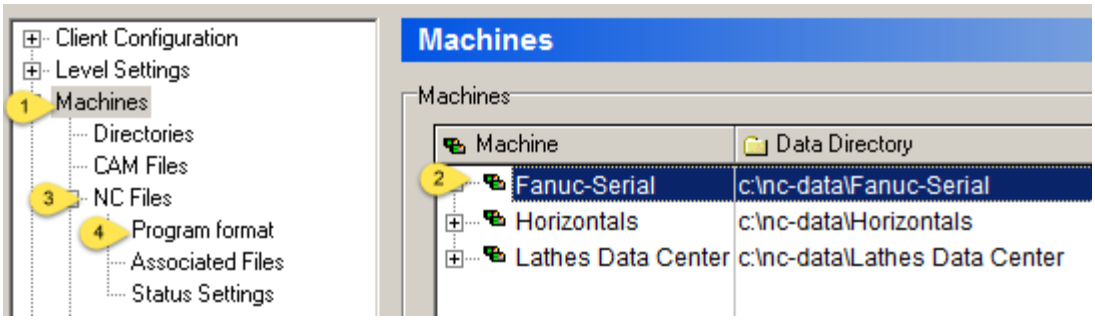


Next, enter the **Database Configuration** and go to **Machines**. Select the group you are adding the template for.



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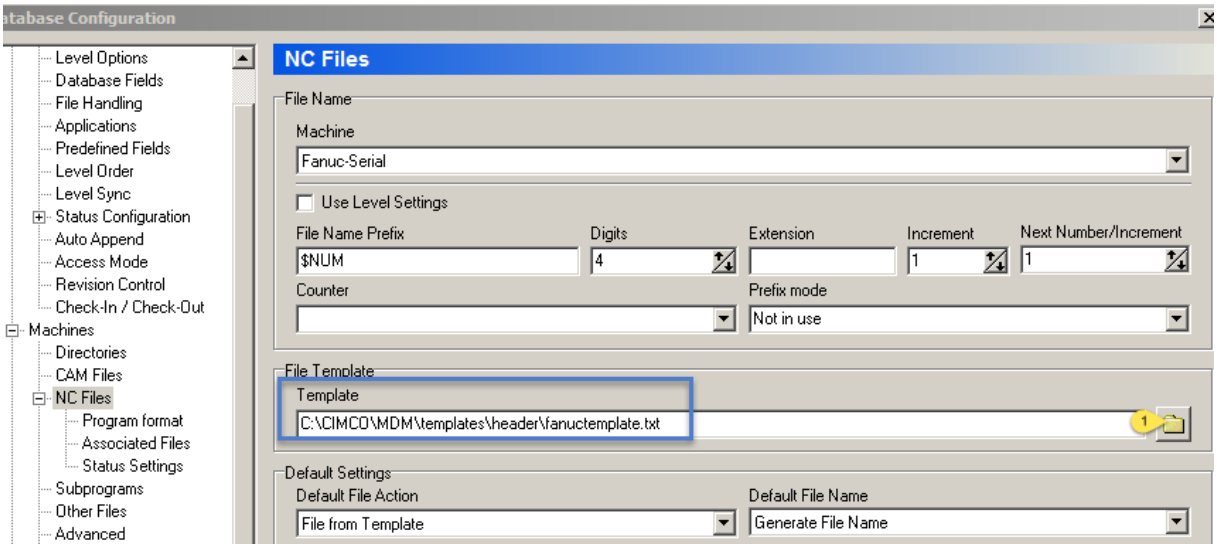
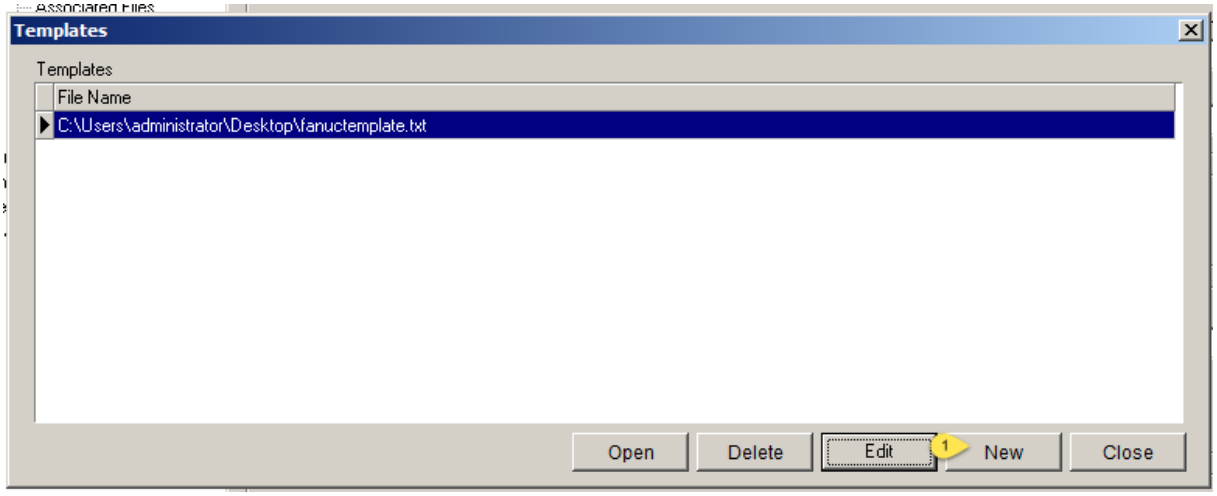
Then go to **NC-Files** in the treeview menu and click the folder icon as shown below to select the template file **fanuctemplate.txt**.



The Templates dialog will appear. Click the **New button** to add a new template.



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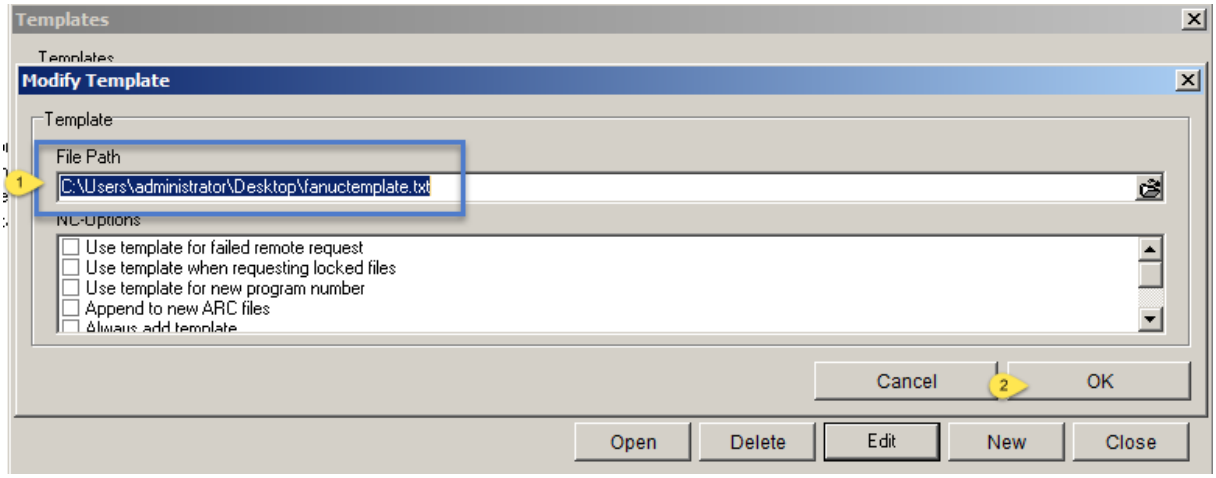
Paste the path we copied earlier and **remove any quotes " "** or extra characters so you get a clean path, then click the **OK button**.



Then go to **Program format** under NC-File in the treeview menu and click the **Add button** to create the first of the three criteria we want.

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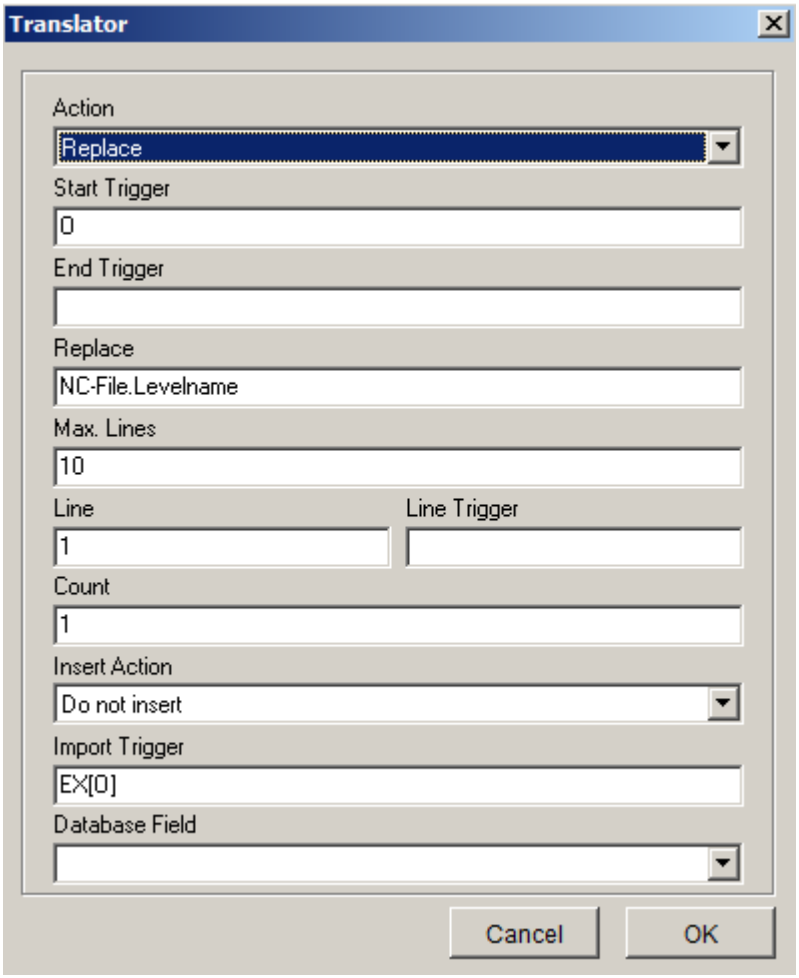
We will start with the line **O1000**. The **Action** we will use is **Replace**. The **Start Trigger** will be **O** (which matches the O in O1000 or any program number) there is no **End Trigger** in this case but you will see, in future examples, how End Triggers are used to match things such as comments.

Under **Replace** we use **NC-File.Levelname**, so we are replacing the **O#** with the NC file's levelname. In **Max. Lines** (number of lines to search for O in the NC file) we will enter **10** since O#'s are usually at or near the very top of an NC file. We will place it at **Line 1** with a **Count** of **1**. Finally for the **Import Trigger** we will use the expression **EX** (Exactly) **[O]** (the value O). It should look like this:



We will then click the **OK button** and move on to the Customer value.

Click the **Add button** to create the second of the three criteria we want.

Set the **Action** to **Replace**. The **Start Trigger** will be "**(CUS-**" and the **End Trigger** "**)**". Remember our template? The Start and End Triggers match the line we added, **(CUS-**$Customer.Levelname**)**.

We will replace this line with Customer.Levelname (the customer's name). For **Max. Lines** we will use **20**, that should be sufficient for most cases, if your customer has many comments make sure you cover sufficient number of lines. We are adding it to **Line 2** with a **Count** of **1** as it only

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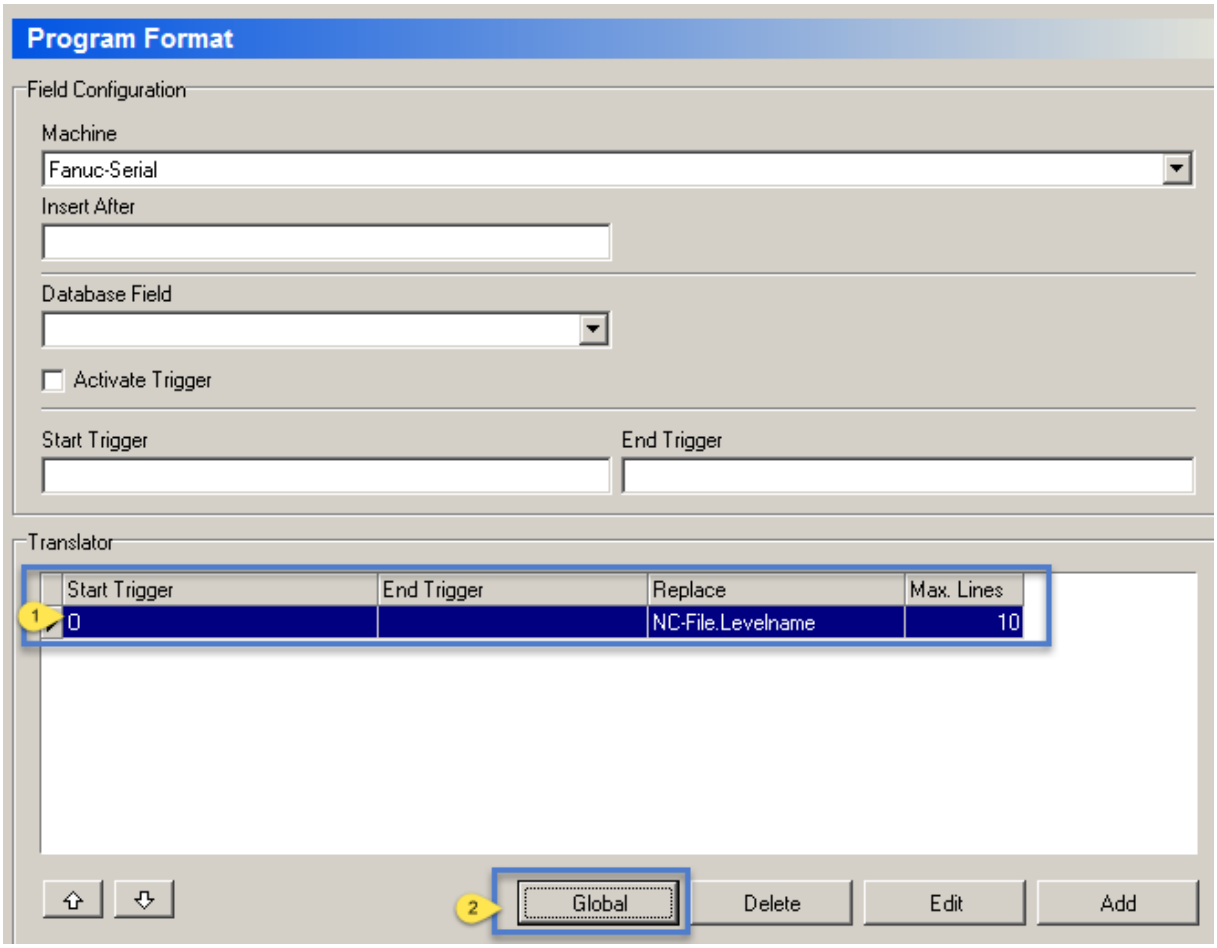
appears once in the file. We will insert it **after the line** and our **Import Trigger** for this rule to run will be an exact match **EX** of **[CUS-]**. See settings in screenshot below.

Note: You can apply each of these Program Format Translators to other machines or Machine Groups by highlighting it and choosing **Global**.



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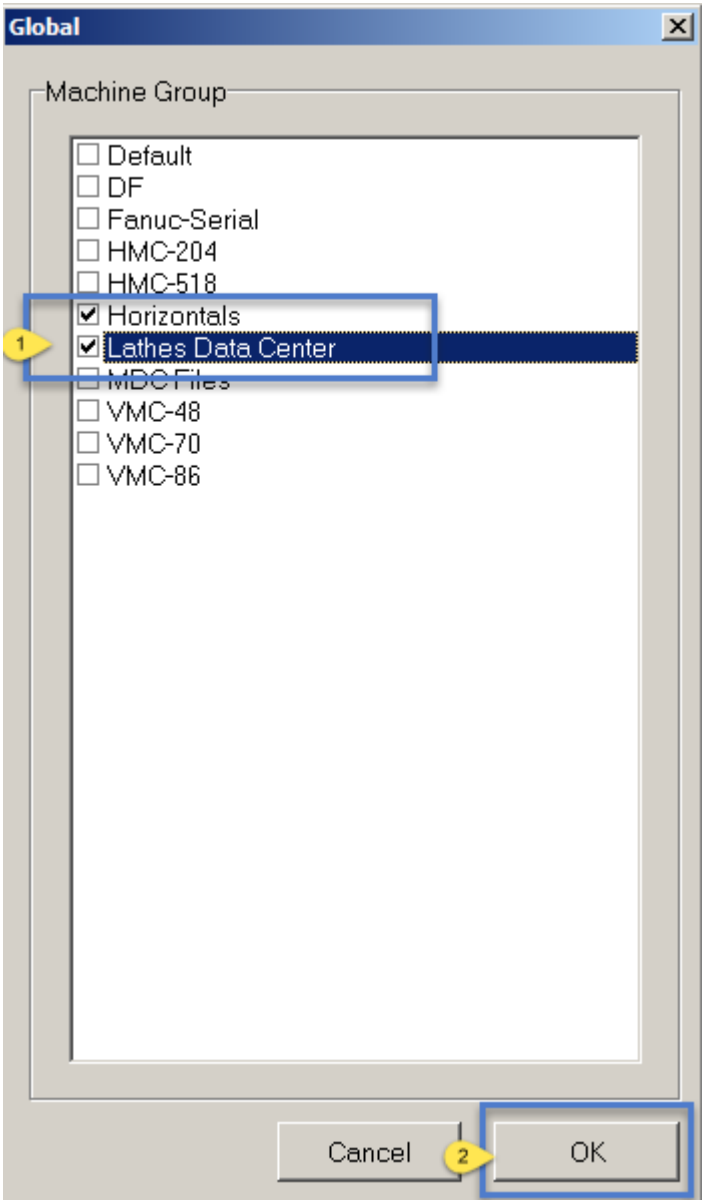
This brings up a list of available Machine Groups. In our demo we will apply it to the two other groups (since we are working with Fanuc-Serial, we only have to select Horizontals and Lathes Data Center).



Once you click the OK button, this Translator will be added to the other two groups.

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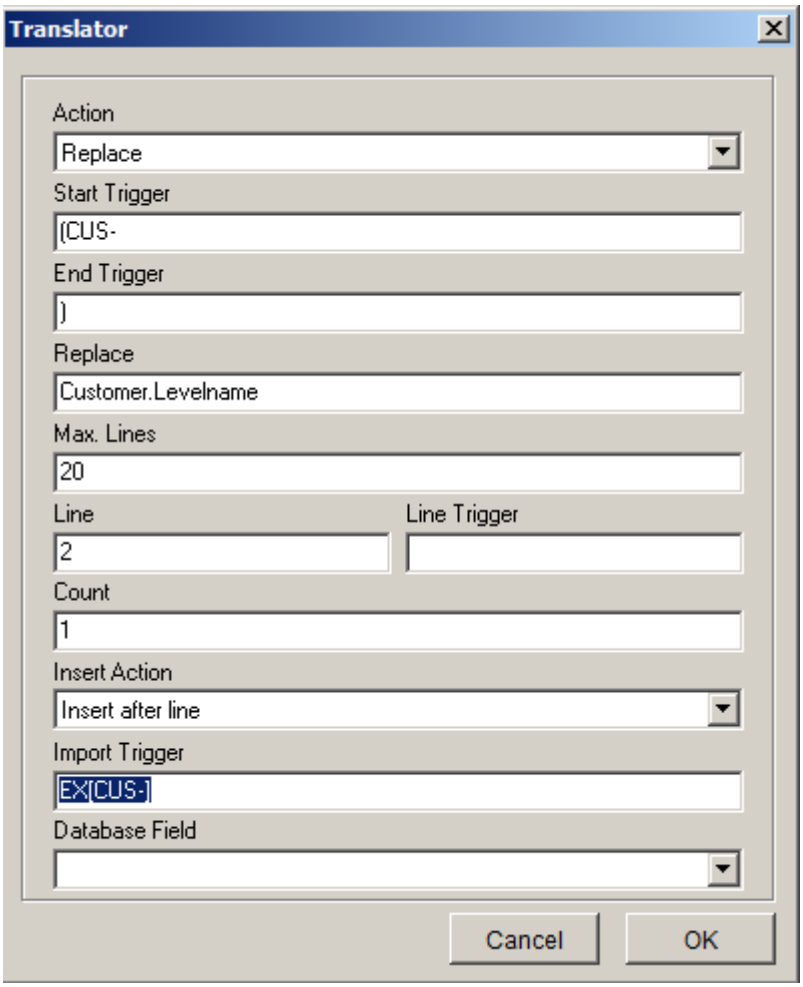

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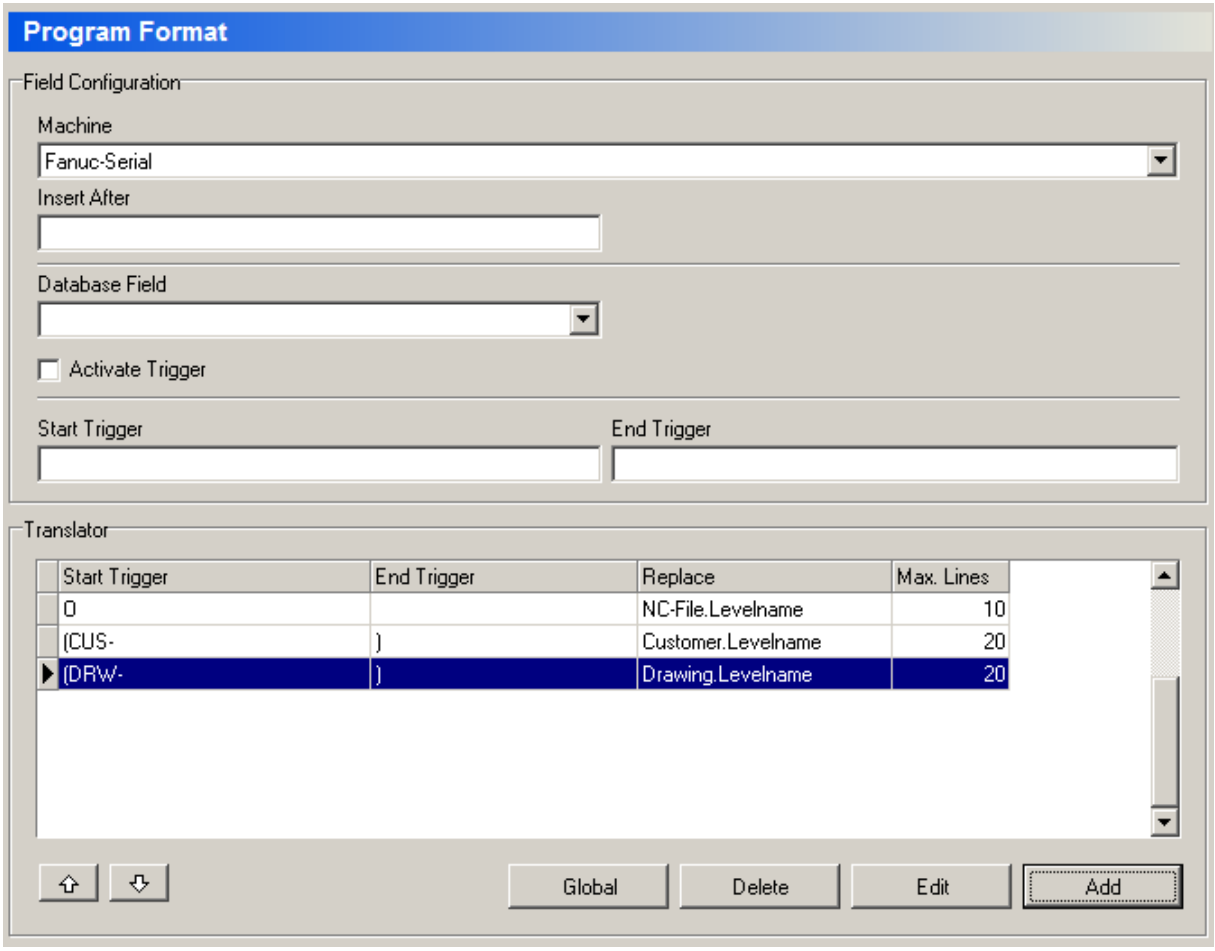
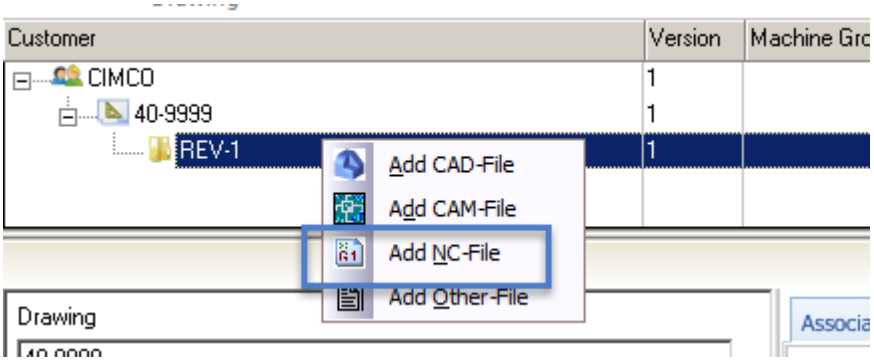
Lastly we will add our Drawing number. Use the Action **Replace** again with a **Start Trigger** of "**(DRW-**" and **End Trigger** of "**)**"**.** Repeat the settings from the Customer rule but **using Line 3 for the location of the drawing number** comment. You should now see this:



Save and close the Database Configuration. We can now test our rules by adding an NC file. To do that we will drag a sample NC file from the CIMCO Edit samples folder (/ISO MILL/LEFTOVER.NC) to the REV-1 level and choose **Add NC-File**.



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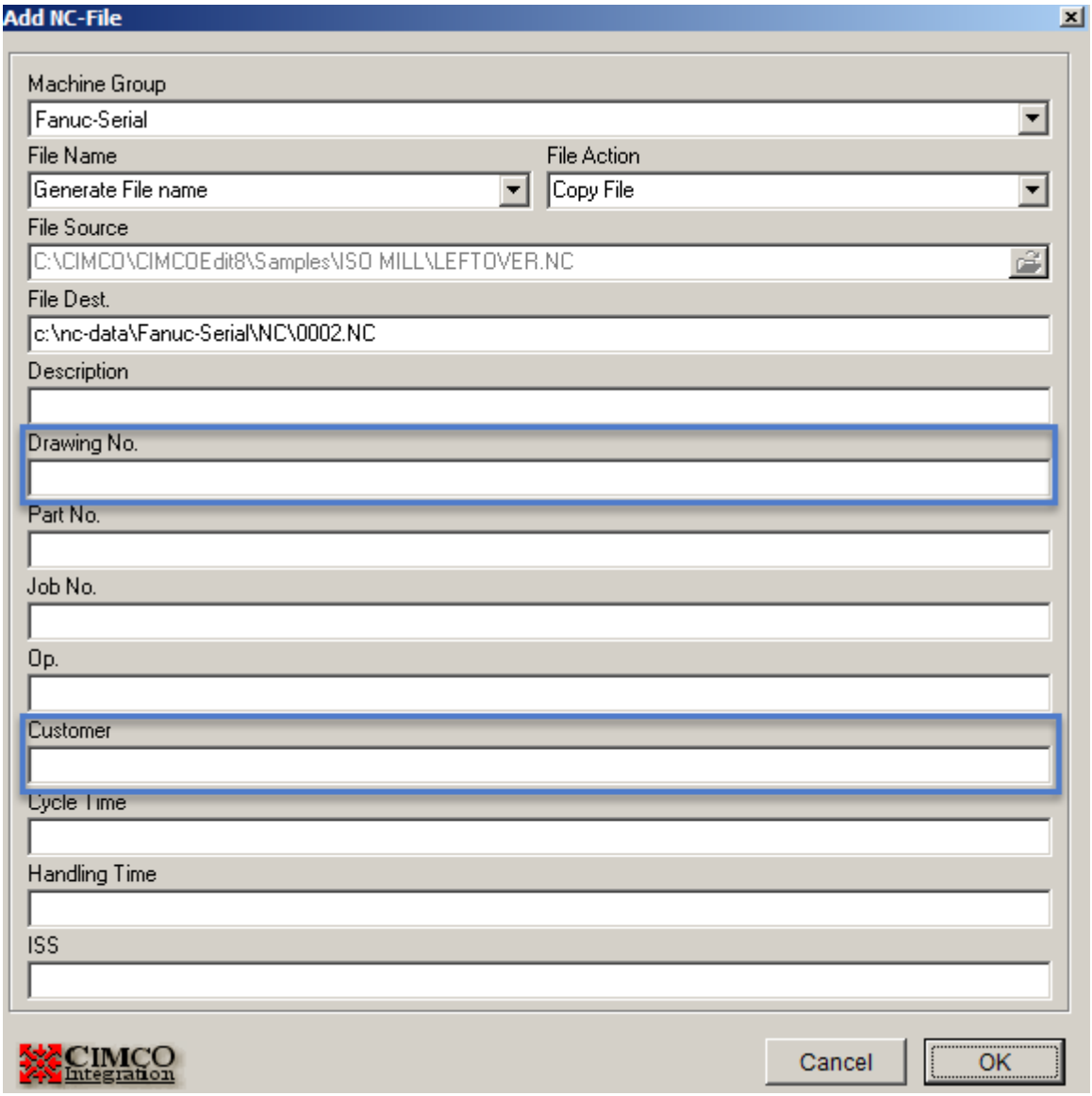
You will notice that there are a number of additional fields that can be manually filled in. In our case two of them will be automatically generated once the file is added (highlighted below) using our template and the automation we have configured. These fields do not have to filled out here.



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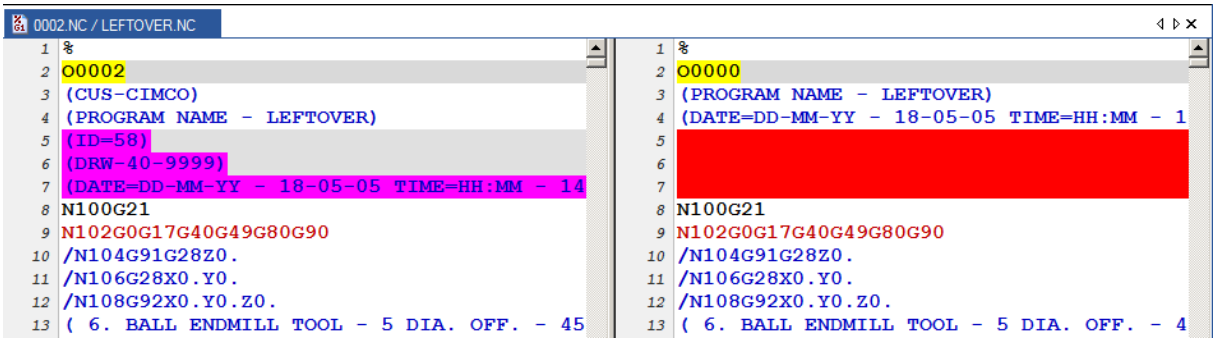
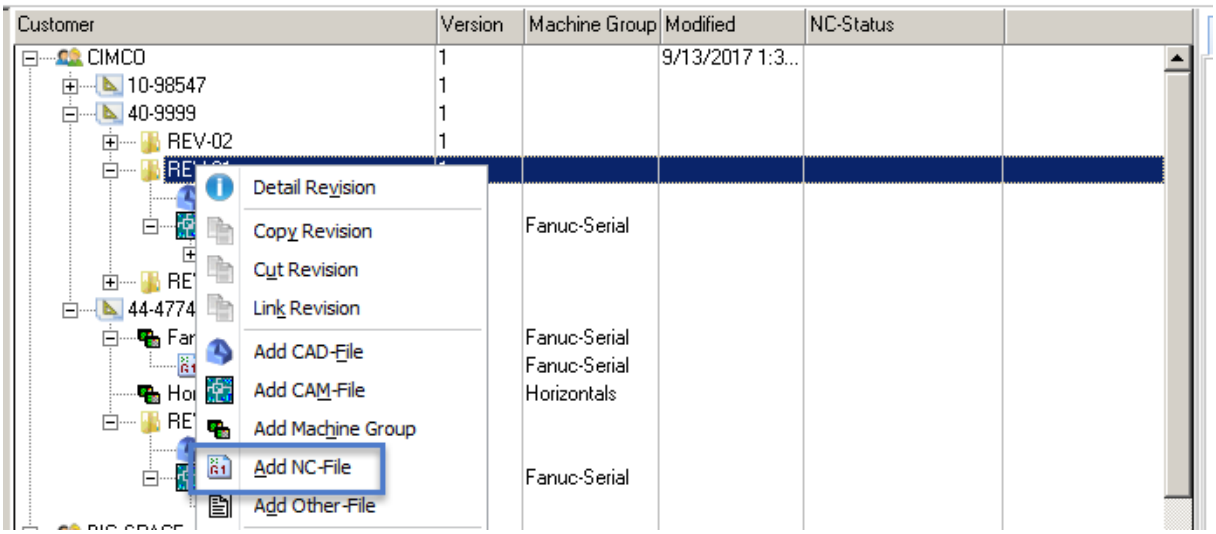
Now that the file is added, **right-click** the **NC file** and choose **Open** file. If CIMCO Edit is the default program for viewing NC files you can also open the original and compare them. You will see that the line **O#** from the template has been altered to match the program number of the NC file and the lines we expected have been added as well as an (ID=##). This is the database ID for this file.



Lastly, let us assume you do not yet have an NC file and want to create one from the template. To do this, right-click the Revision level and choose **Add NC-File**.



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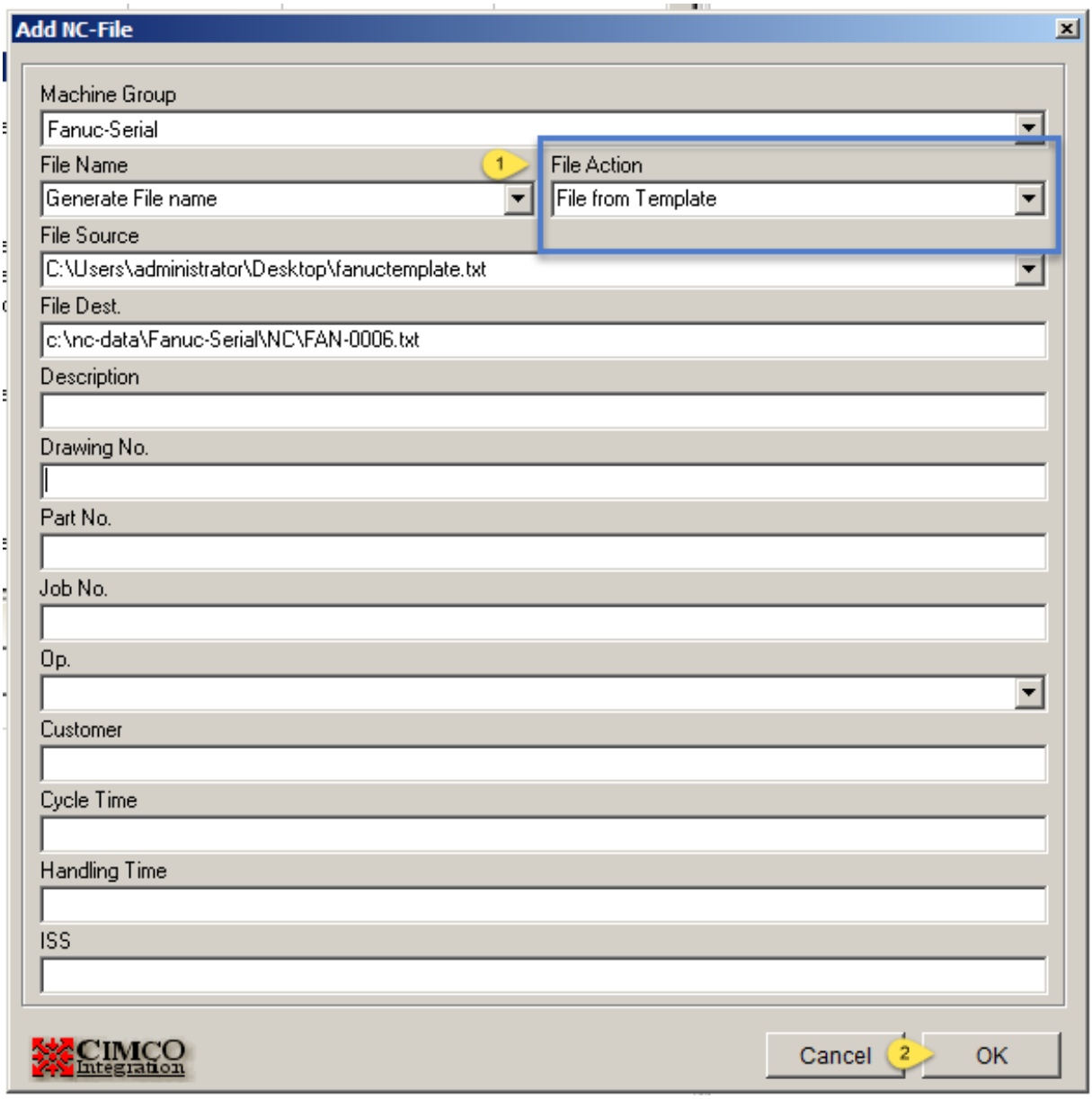
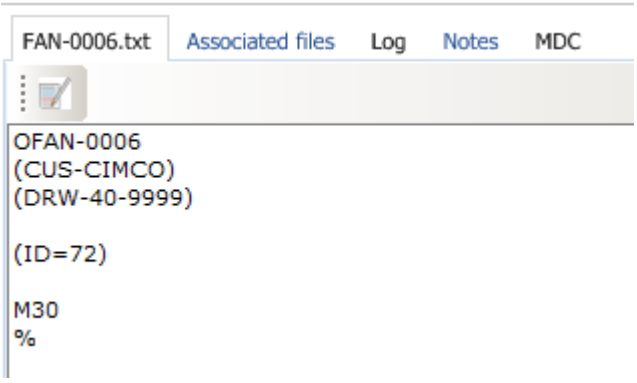
In the Add NC-File dialog, select **File from Template** in the **File Action** dropdown menu.



This will create a new (blank) NC file that can be utilized. The file will be formatted properly with the template settings.



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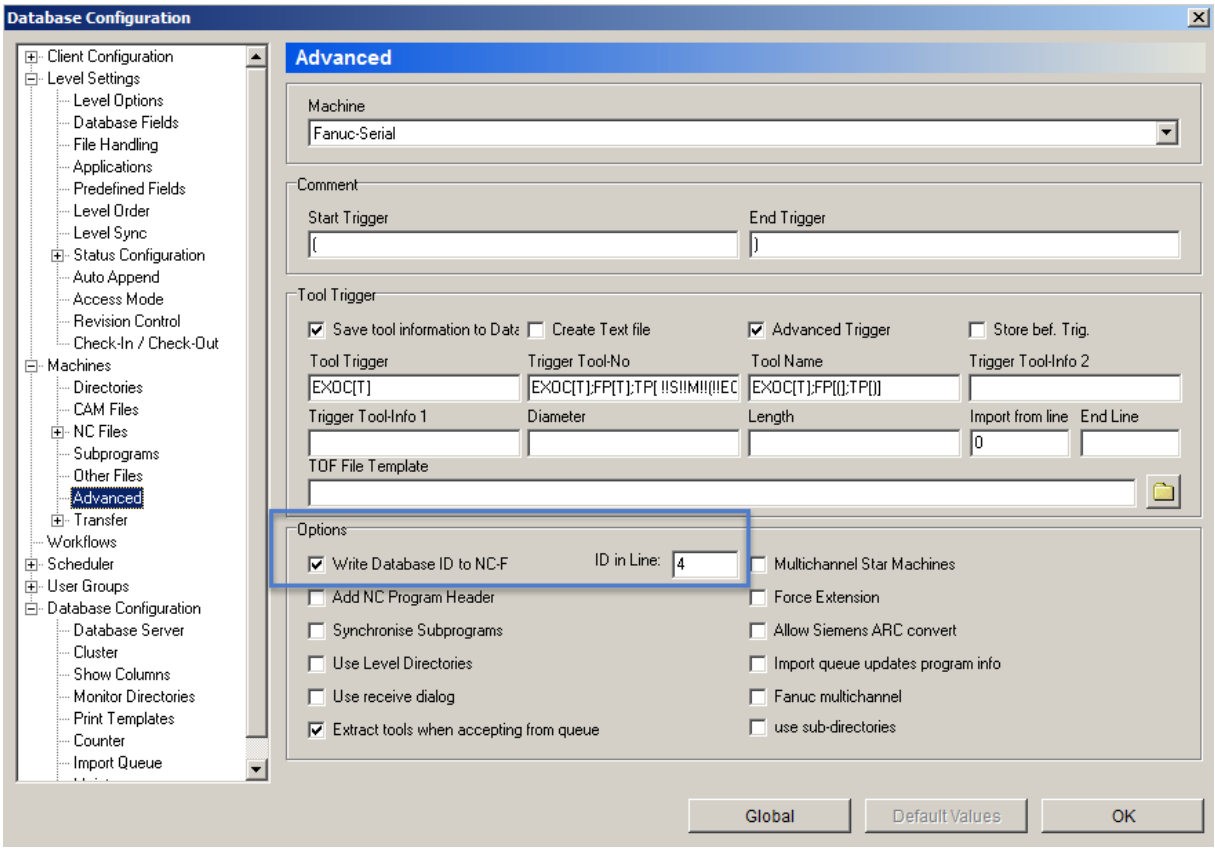
Please note: The line **(OFAN-0006)** is not compatible with Fanuc controls. This is visible due to a change to the demo platform when FAN- was added to the NC filename for the Fanuc Machine Group to provide another example. That setting would not work for a customer and was added for demonstration purposes to show how you can manipulate it to fit different machine configurations.

4. Write Database ID to NC-File

Every item in CIMCO MDM has an ID number in the actual database. This value is completely unique and can be useful for management of NC files that are returned to the system via the Import Queue for example. It is very easy to turn on the feature to write the database ID to the NC files in your MDM system. Go to **Machines** > **Advanced** in the Database Configuration, select the **Machine Group** (repeat for all groups) and enable the option **Write Database ID to NC-F** as pictured. Depending on how your template is configured, you may need to adjust the **ID in Line** number so the ID is added to line 4.



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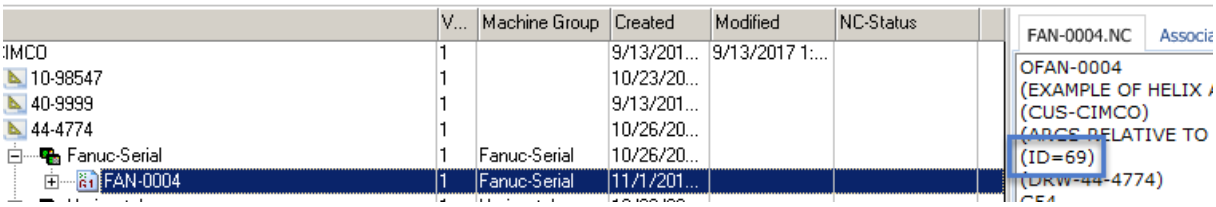
You can see the ID by previewing any file added after enabling this feature in the MDM Client.



Notice that the ID it is added at line 4. ID=69 is a completely unique identifier for this file.

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Transfer

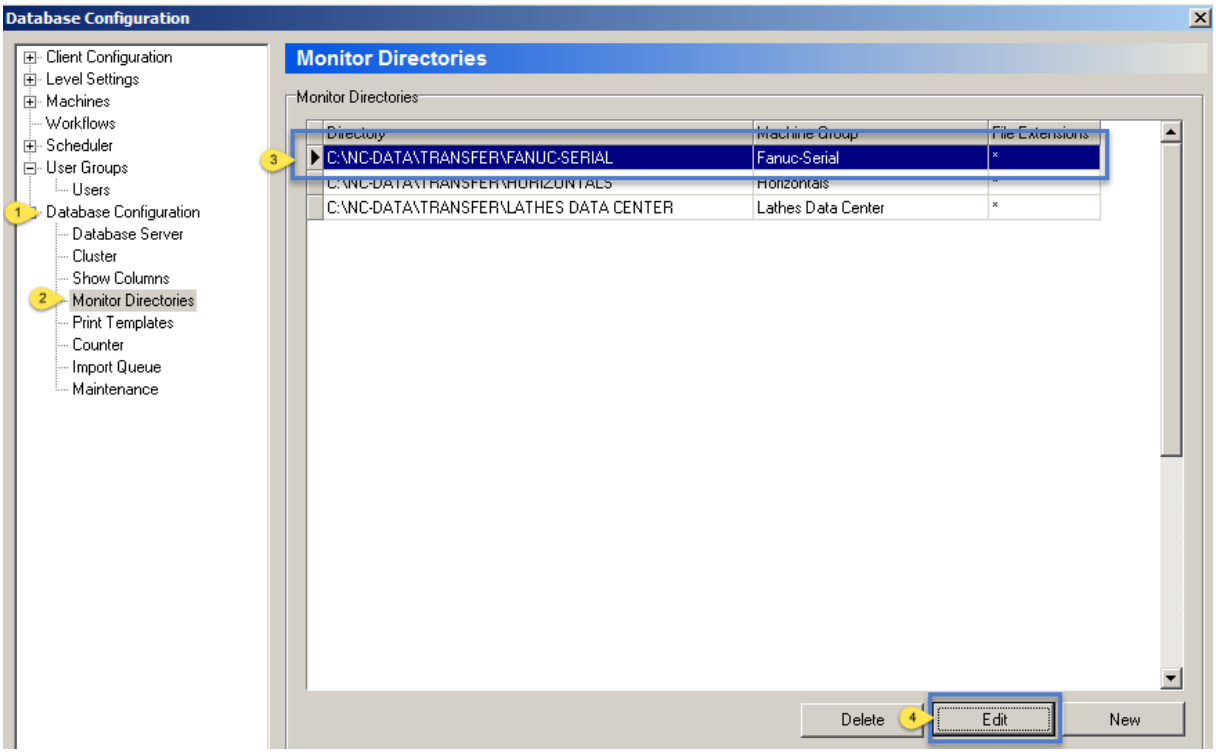
Much of this section is generated using the templates you utilize when adding Machine Groups to CIMCO MDM. We will review each section individually, so you know where to confirm settings, make changes, and to understand how each feature works.

1. Setup remote request for NC files and folders

Remote request can be a useful feature for serial and network machines alike. There are two ways to perform a remote request. Using a barcode reader (not covered in this document) and using a special NC file (a request) that, when placed in a shared machine folder or sent to DNC-Max, can trigger MDM to find and return a particular NC file.

1.1. Serial Machines

When we created the Fanuc-Serial Machine Group earlier, we used a predefined template that filled in some basic information on how this type of Machine Group should work. Go to **Database Configuration** > **Monitor Directories** and select the directory **FANUC-SERIAL** - then click the **Edit button**.



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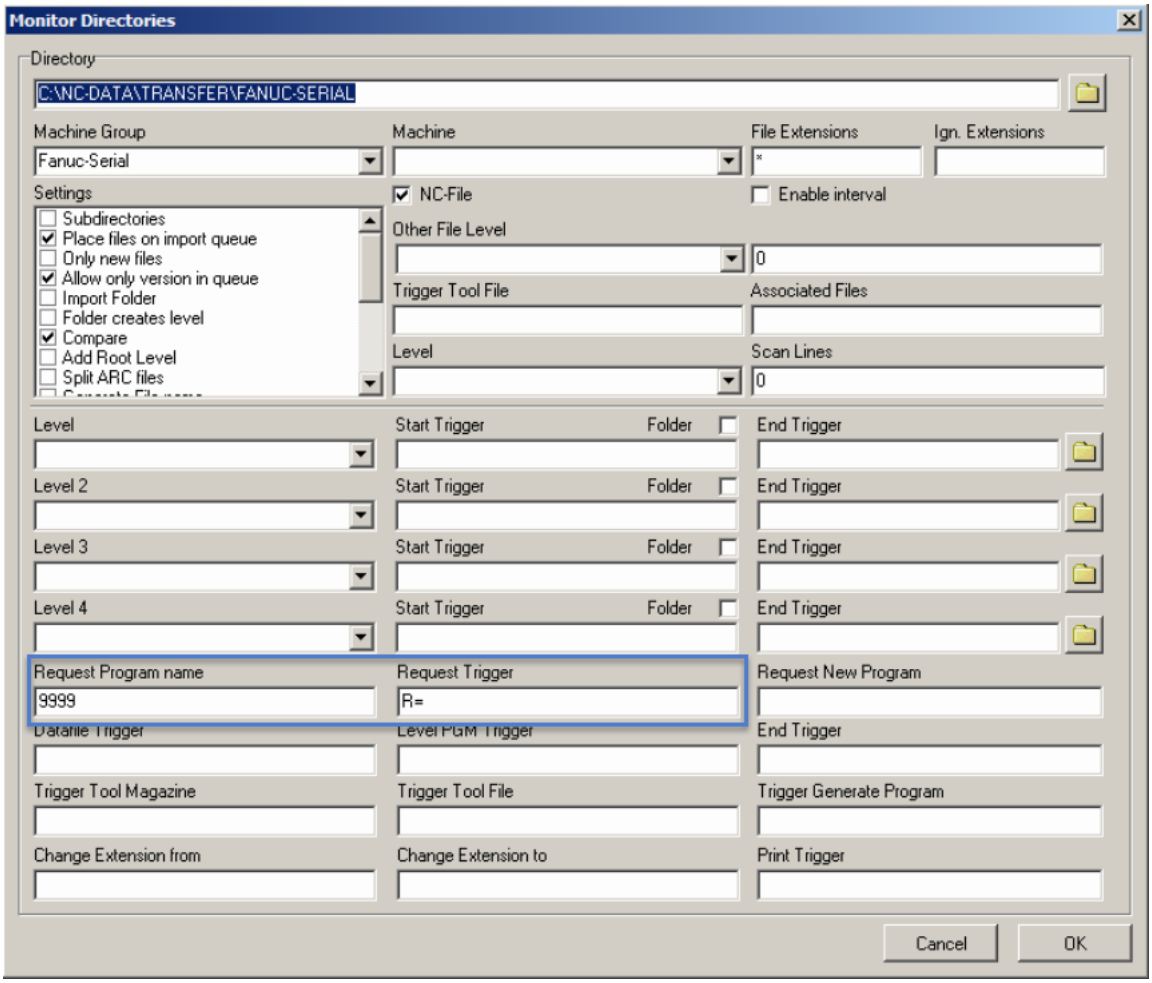
The resulting dialog contains all the options that were part of the template, including the settings for remote request. The dialog settings should look like this.



The value **9999** in the field **Request Program name** is the **O#** number that will be used in our request file. The value **R=** in the Request Trigger field is the default trigger for a initiating a file request. This is actually the older setting, there is a new location for this trigger that you can access (and other important settings) by navigating to **Machines** > **Transfer** > **Request Directories**. Choose the **Fanuc-Serial** in the dropdown menu and click the **New button**.

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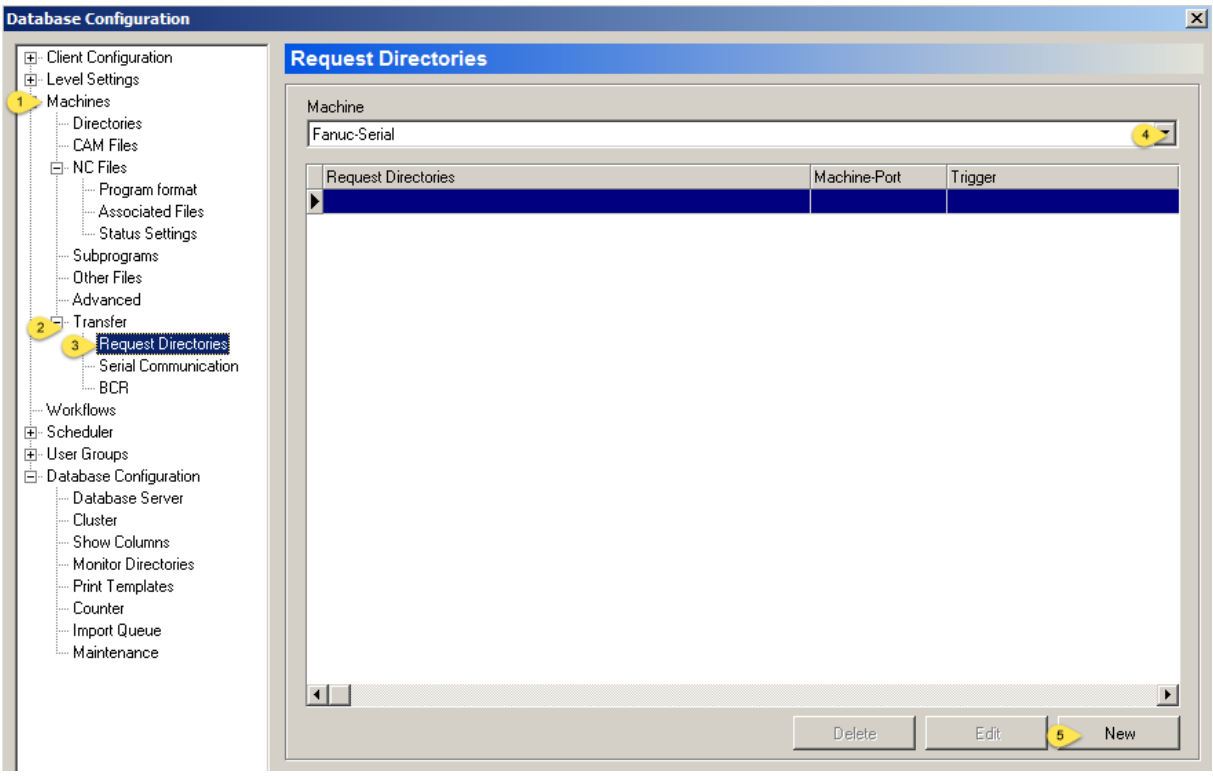

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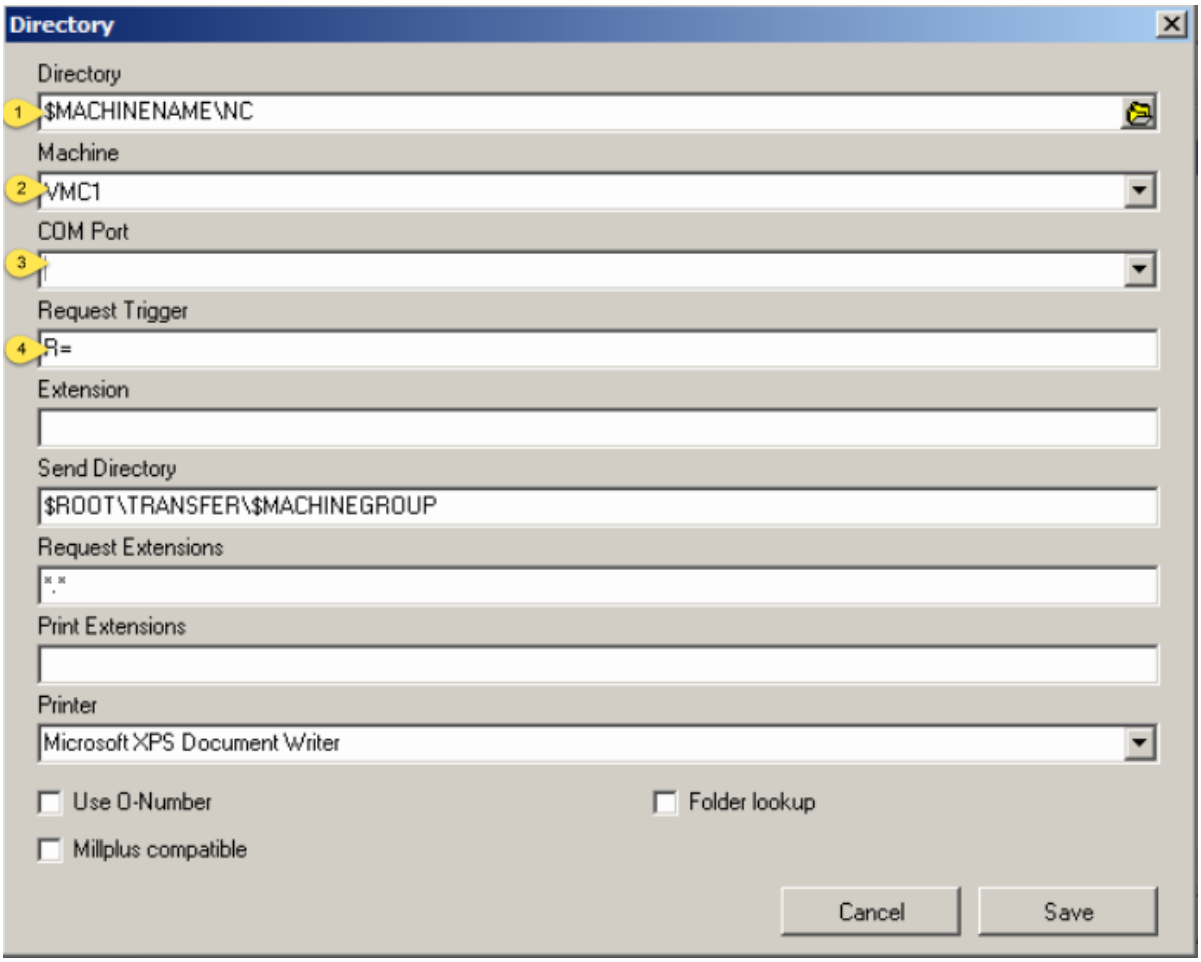
For our demo we are using the path to where the NC files are stored for the Fanuc-Serial machine VMC1, this happens to be **$MACHINENAME\NC** or **C:\NC-Data\Fanuc-Serial\nc**. The field **Machine** determines if we will use MDM (select Default) or DNC-Max (select the port VMC1), we will start with VMC1 since we are using DNC-Max for transfers (as is recommended in most cases).

The field **COM Port** is used to manage a barcode reader, which in our case we are not using so that will stay blank. For **Request Trigger** will use the expression **R=**. The send directory should have been created by the template, confirm that it has the correct path to the directory where files should be sent. The remaining options can be left blank. Click the **Save button**.



The process to do a remote request on a serial machine, is to edit a short program and send it out through the serial interface to DNC-Max, the file should contain the following.

%
O9999
R=44-9929

Where **O9999** tells MDM it is a remote request and **R=44-9929** indicates which program from the directory (C:\NC-DATA\Fanuc-Serial\NC) should be sent. If the program is found, it will send the file using DNC-Max.

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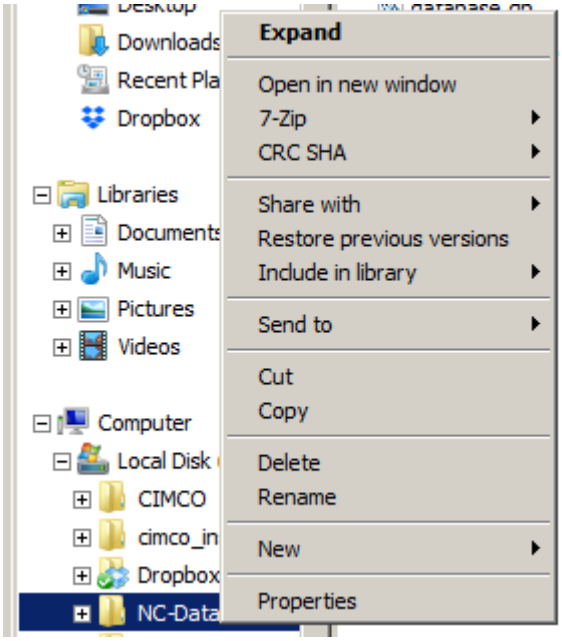
1.2. Network Machines

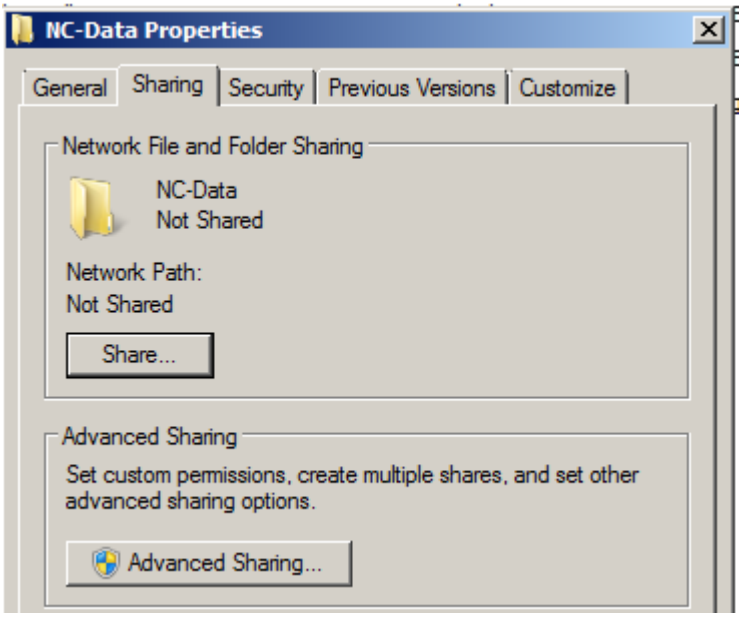
For a folder, or network based machine you would edit the same program and copy it to the share that coincides with the machine directory ($ROOT\TRANSFER\$MACHINEGROUP) or in our case:

\\servername\nc-data\transfer\Lathes Data Center\

The share will need to be created to properly manage connections with Windows based controls. To do so, browse to the NC-Data folder right-click and choose **Properties**:



Go to the **Sharing tab** and if the folder is not already shared, click the **Share button**.



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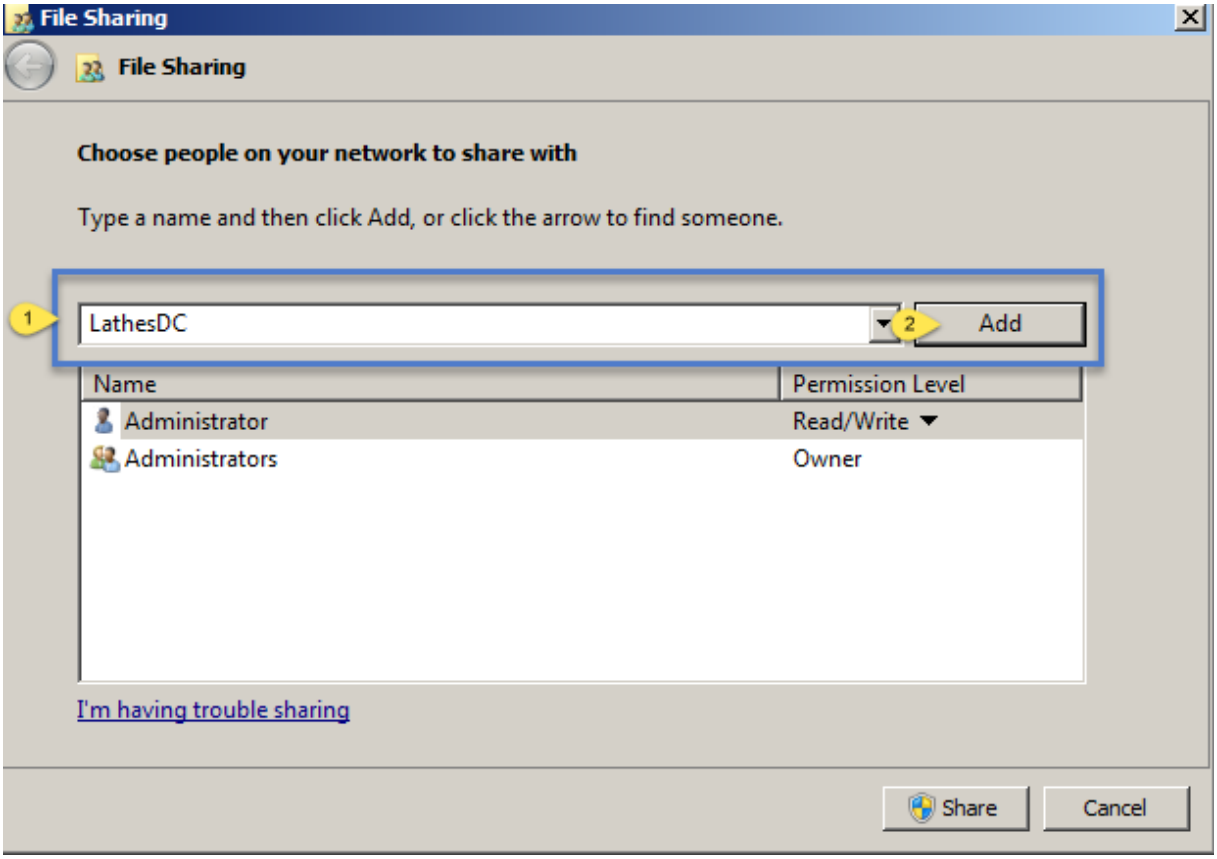
if it is already shared, look at the properties and make sure the username you are using on the Windows based control has access and that the share is NOT read-only. For this demo, we created an account called **LathesDC** to use for our Windows based control to provide access. So we will share the folder with that account:



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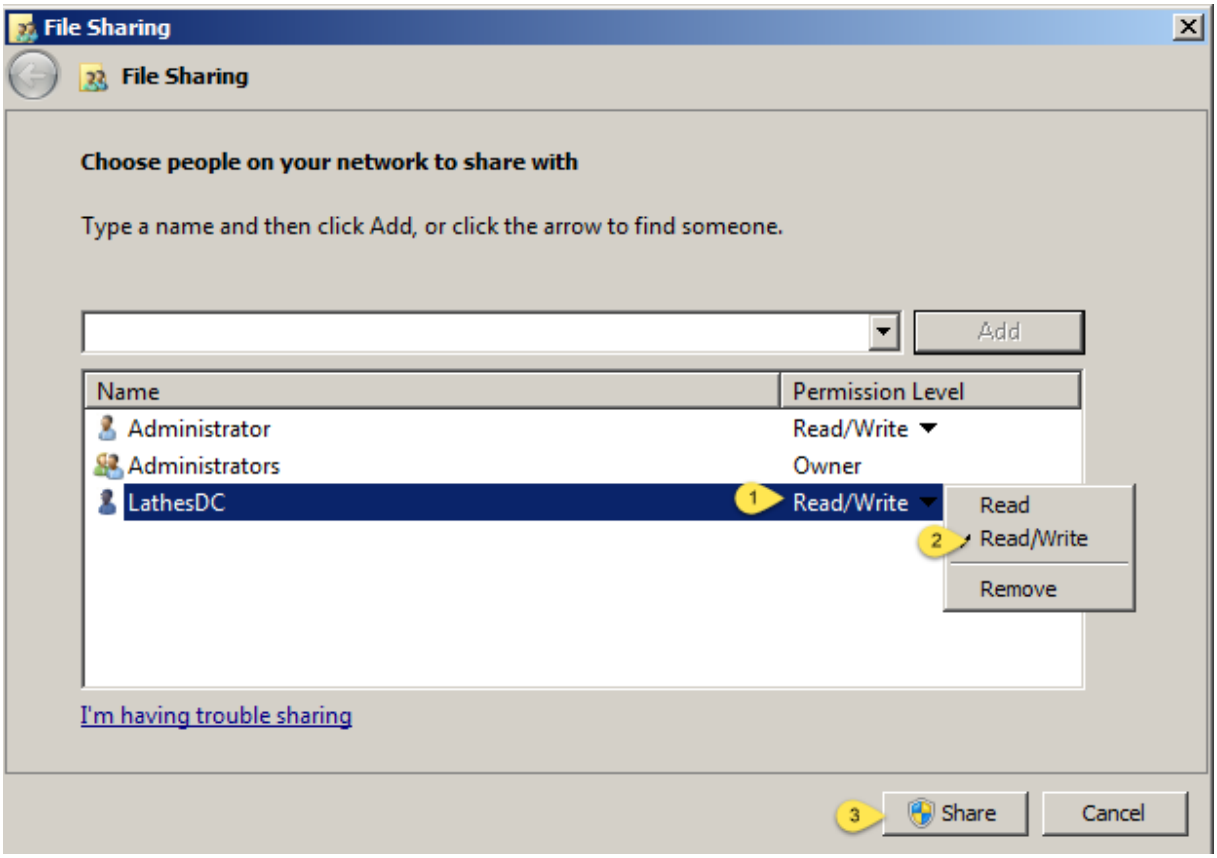
Once you click the Add button, change permissions to Read/Write and click Share:



You will receive confirmation that the folder was shared. Now you need to map the drive on the control using the path \\servername\nc-data\transfer\lathes data center and place your request program there.

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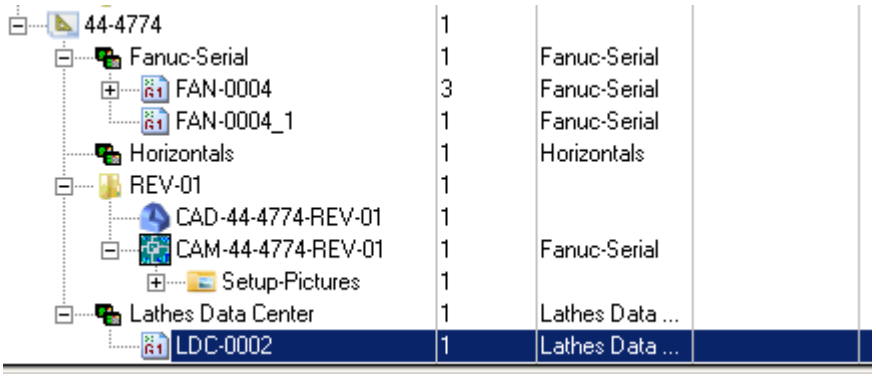
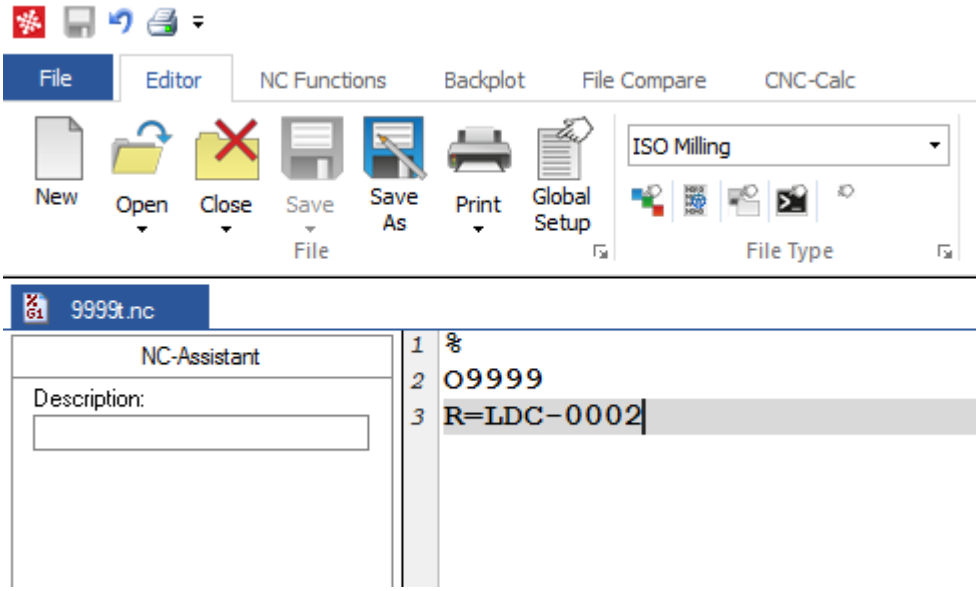
Let us go ahead and test it. First, add an NC file to the Lathes Data Center (Machine Group) by first adding the Machine Group, then drag and drop or add a file like you did in earlier exercises. Here is the program LDC-0002 we added.



Then open CIMCO Edit or a text editor such as Notepad and create a file using the format we used earlier - but this time, add the **program number** (in the example LDC-0002) to the **R=** line.



Save the file to the directory \\servername\nc-data\transfer\lathes data center.

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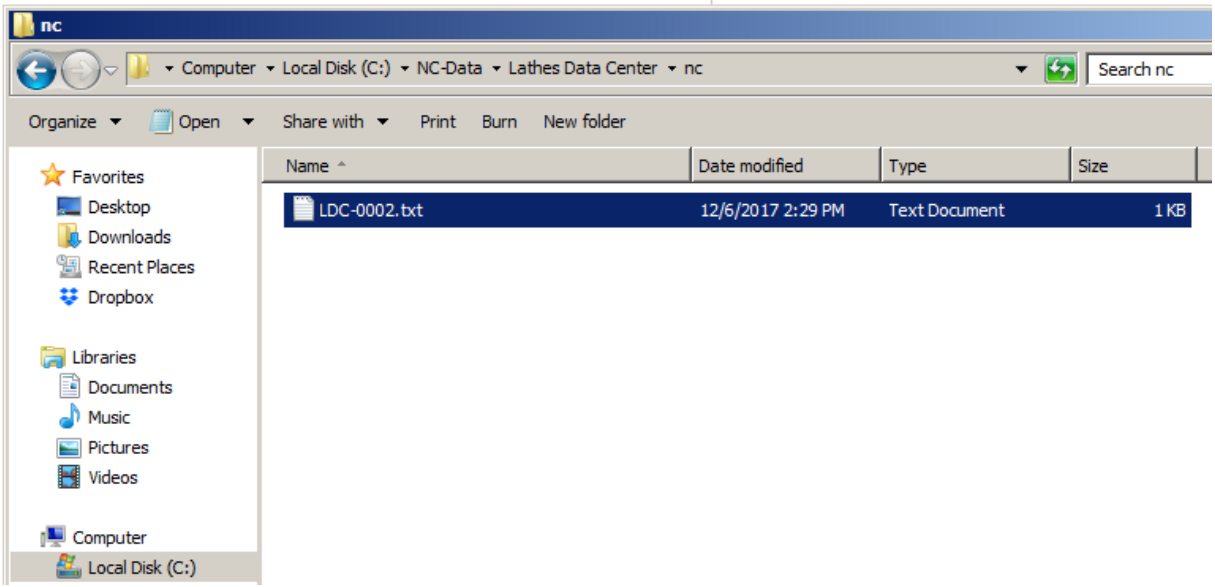
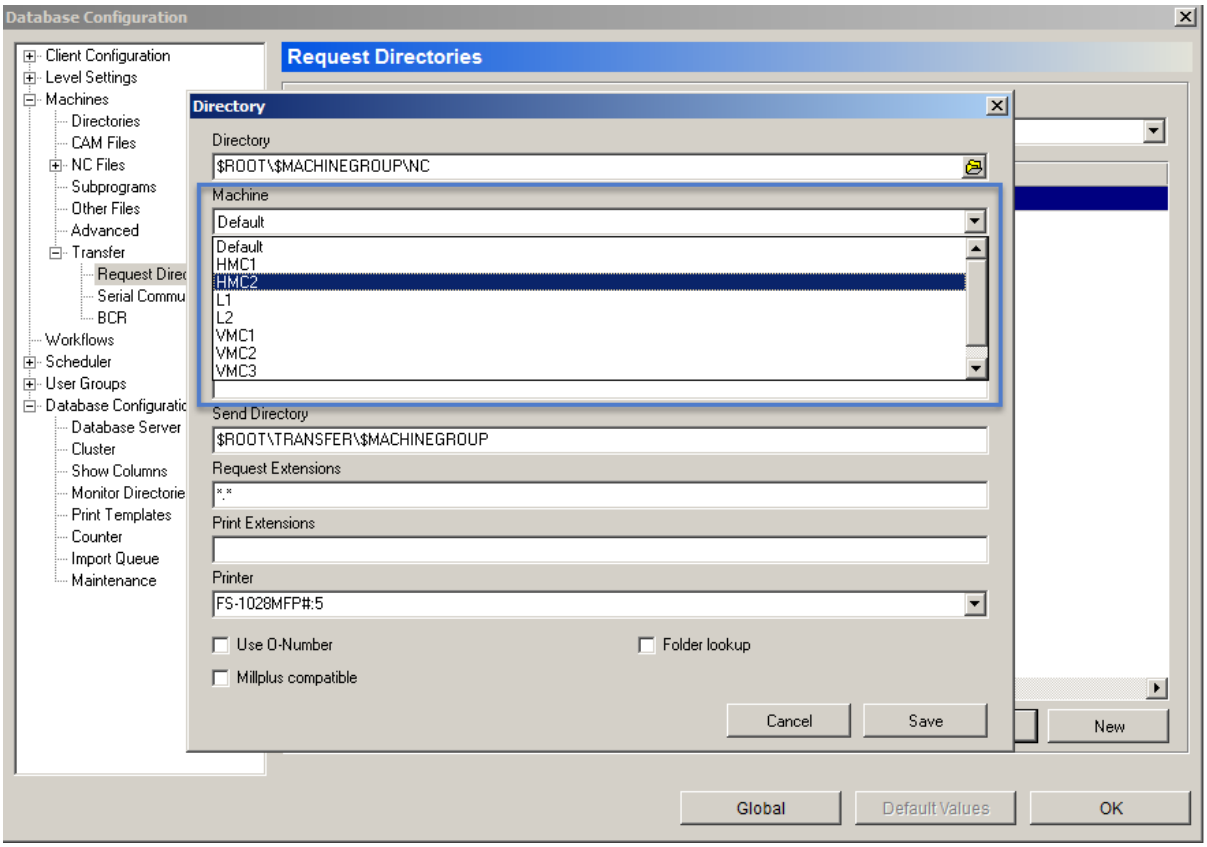
Because we configured MDM to monitor the folder "lathes data center" **($MACHINEGROUP),** MDM will "pick up" (and remove) the request file which triggers MDM to copy the file LDC-0002 to the NC folder. If you browse to the NC folder, the program will show up as a result of the remote request. This confirms that the remote request function is working as desired.



To configure Request Directories, use **Default** for MDM or select the port to use DNC-Max.



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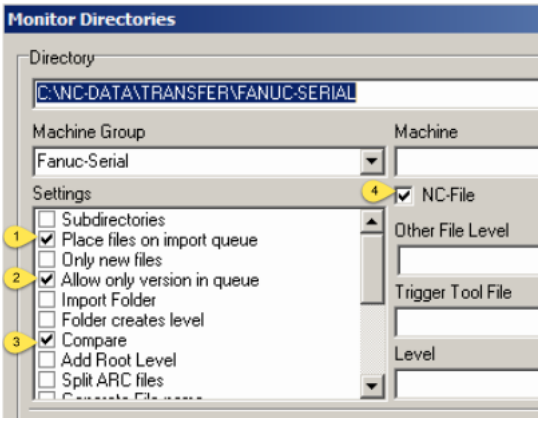
2. Importing files (Queue, Direct Import and folders)

One extremely useful feature in CIMCO MDM is the ability to import files into the system automatically (Direct Import, folders/sub folders) or subject to review (Import Queue).

2.1. Import files using the Import Queue

By utilizing the Import Queue, a customer can allow review of NC file changes that occur on the shop floor. This is achieved by sending the files back from the floor for approval by appropriate staff using the Import Queue. To enable this feature, access the Database Configuration and go to **Monitor Directories**. Keep the incoming **Directory** path (the directory where files, sent back from the floor, are sent) and enable the options below under settings as shown in the image.



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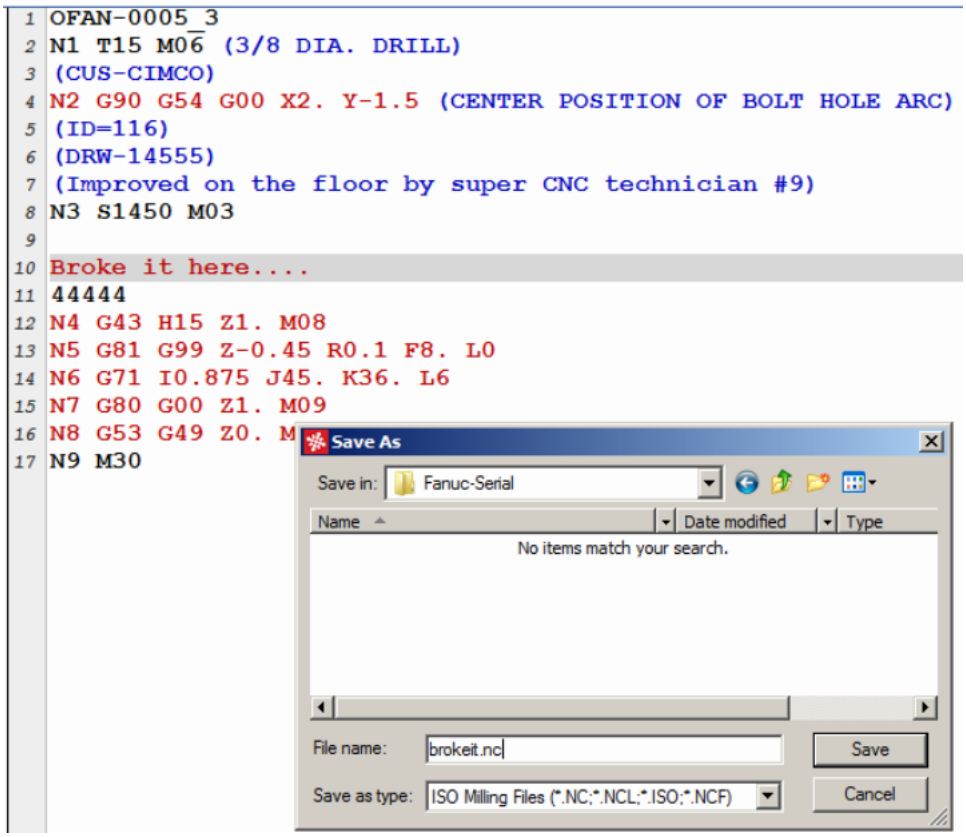
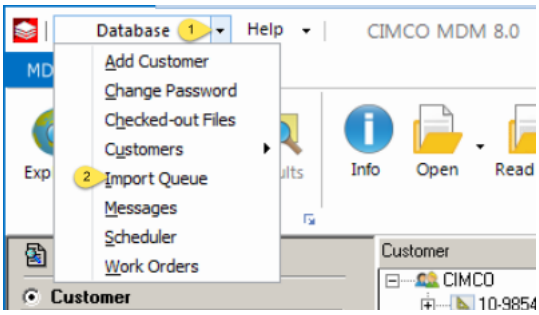
Now edit an existing NC file for the FANUC-SERIAL Machine Group, alter its contents and place that file in the incomming directory specified above. Here is an example.



Once saved to the directory, the file will be imported to the Import Queue. Access the queue through the upper left menu.



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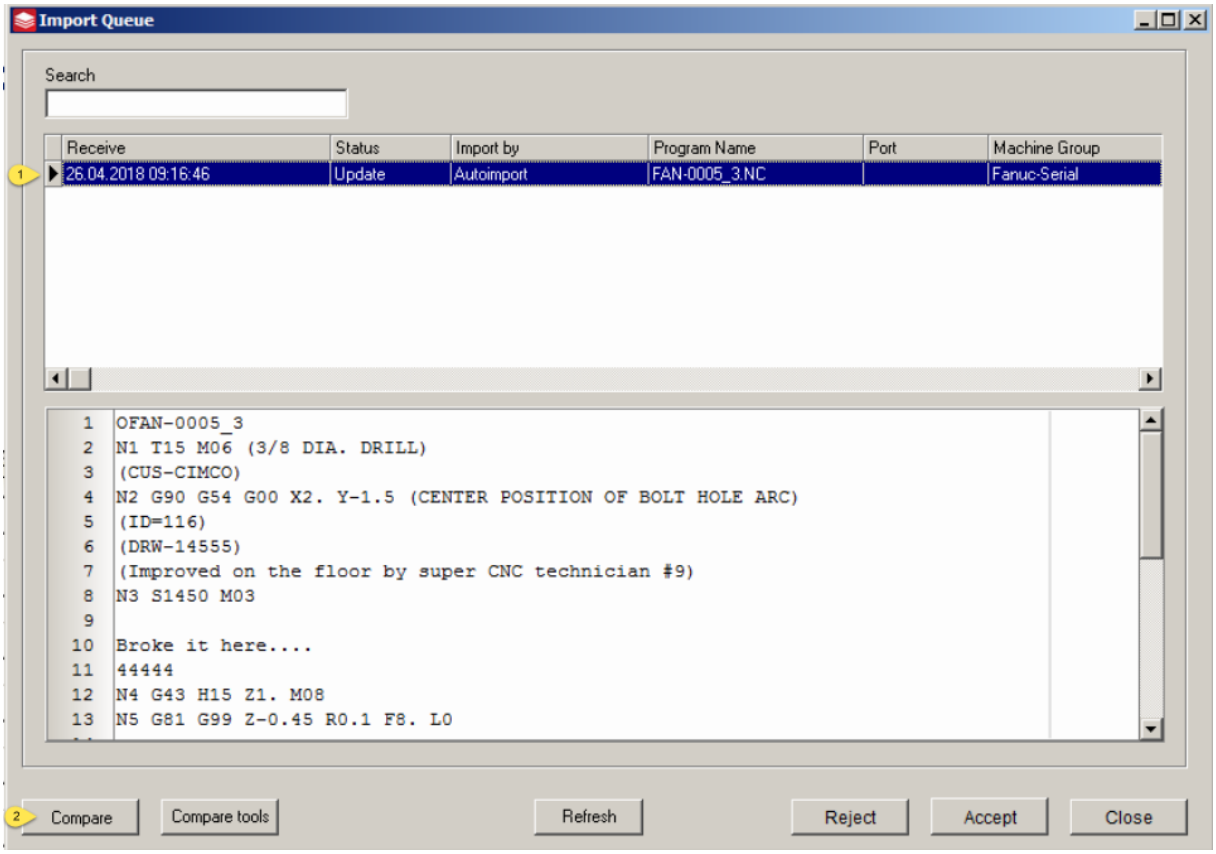
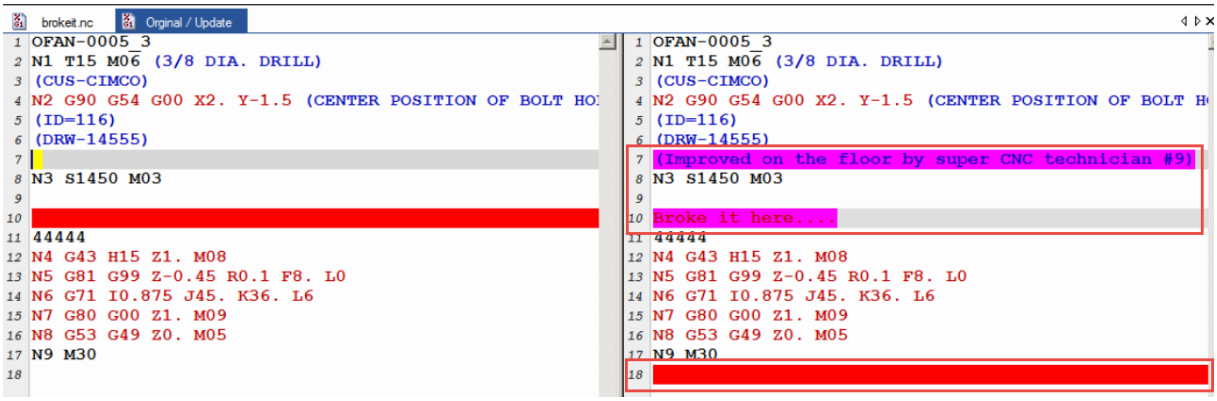
Once the Import Queue dialog is open, you will see the newly imported file. Select the file and click the **Compare button**.



A quick preview will show that the changes are not good and should be rejected.



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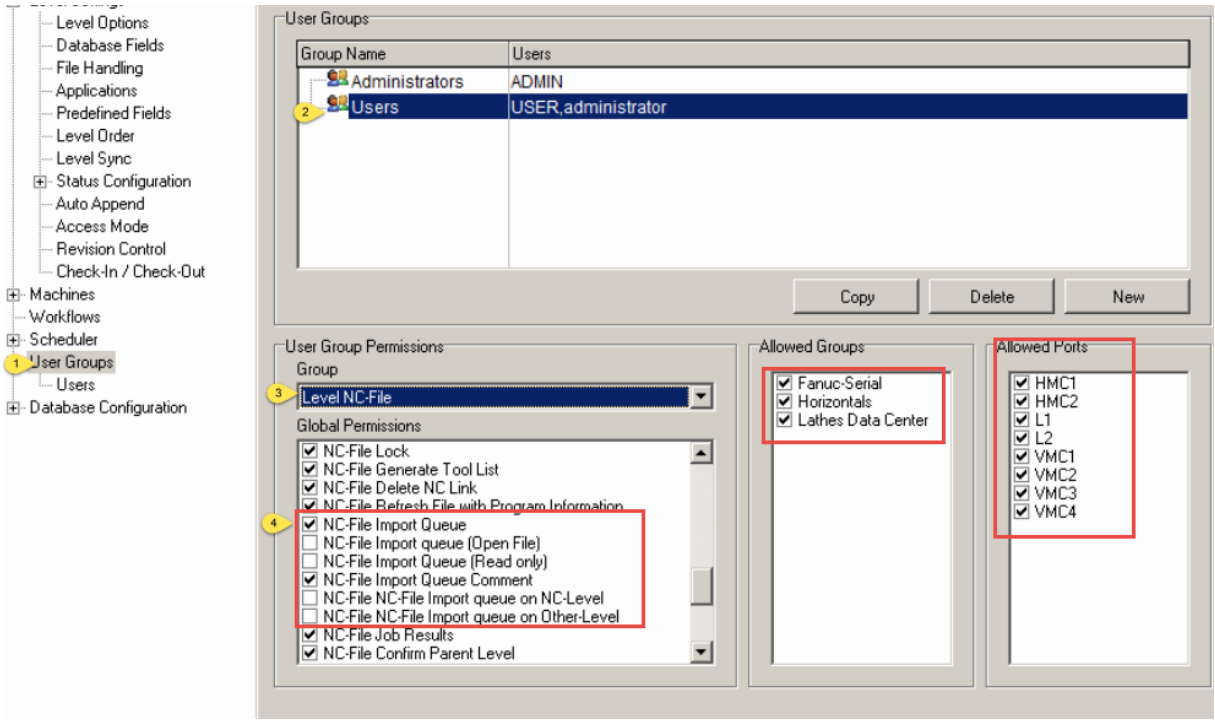
Import Queue Permissions

You may wish to limit which users can manage the Import Queue. These would be individuals and groups who are authorized to make decisions about which changes to accept or provide training to others based on NC file changes that occur on the shop floor.

To control the access to the Import Queue open the Database Configuration and go to **User Groups**. Under Group, select the NC-File level and enable the **NC-File Import Queue** permissions shown below - do not enable the read-only permissions. Remember that denied/read-only always supersedes allowed.



Queue Interval Setting

One last potentially crucial setting is the Queue Interval. There is a setting you can add or alter in the **C:\CIMCO\MDM\cfg\settings.ini** to speed up the performance of the Import Queue.

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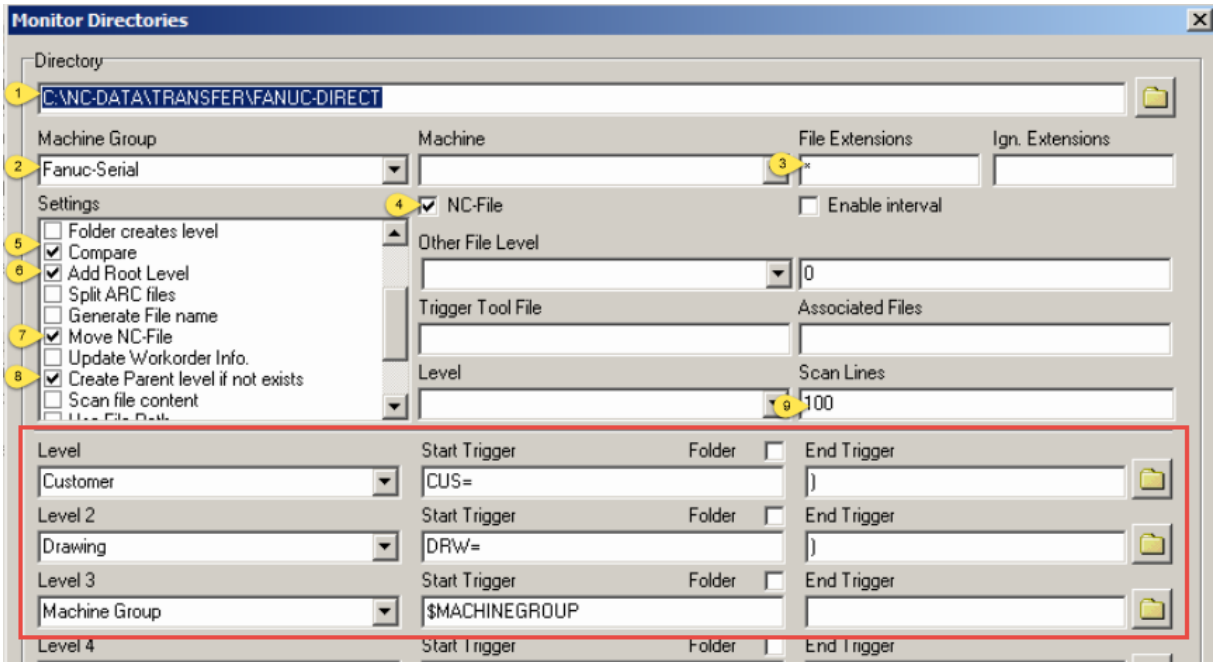
2.2. Import files using direct import

Direct import can be used if you do not want to review files, but just want the files added automatically to MDM if they are placed in a particular directory. With direct import, files will be added to MDM without any approval or review, so use cautiously.

To setup a direct import, go back to the **Monitor Directories** under Database Configuration. Create a new or Edit an existing directory and call it **FANUC-DIRECT** as it appears below.



These settings will create all the necessary triggers to create a file using all the parameters we have configured previously for Customer, Drawing, etc.

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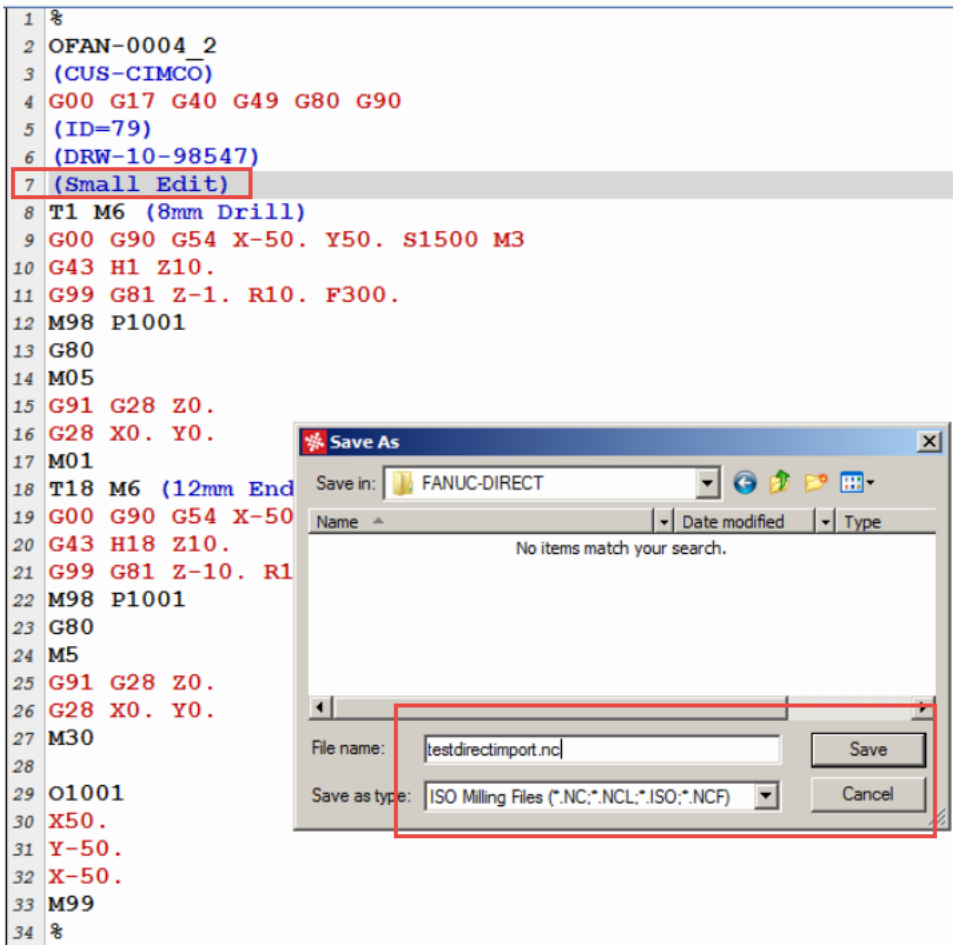
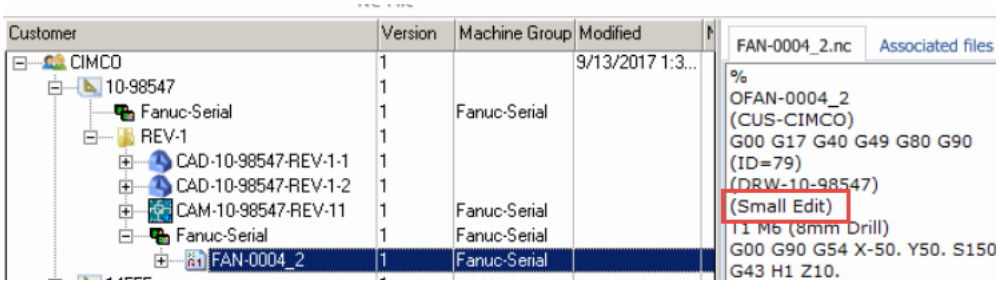
To test it, alter an existing NC file slightly and place it into the C:\NC-DATA\TRANSFER\FANUC-DIRECT folder.



Now if you look up this same program, you will see that it has been automatically updated to the edited version without any Import Queue oversight.



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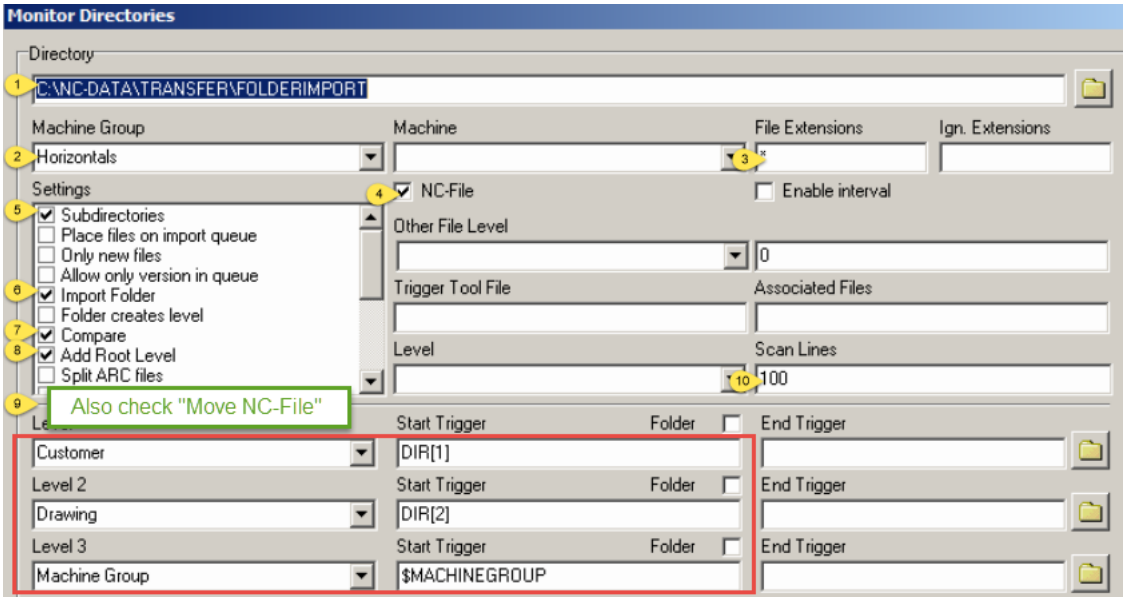
3. Import folders or folders and sub directories

In some cases you may have a customer who has an entire directory structure that needs to be imported into MDM. In such cases you will need to use a folder, or folders and sub directories configuration in MDM to import everything.

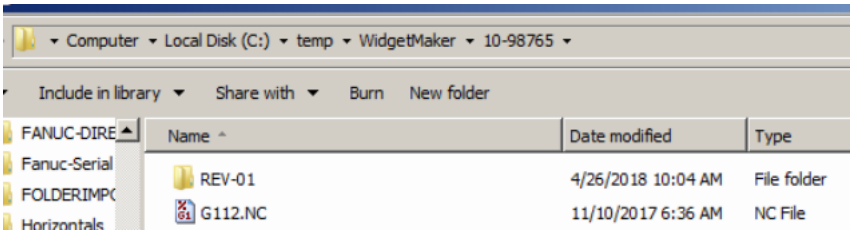
To do so, go back to **Database Configuration** > **Monitor Directories** and create or Edit a directory called **C:\NC-DATA\TRANSFER\FOLDERIMPORT** with the following settings (Note: in settings, also scroll down and enable **Move NC-File**).



Next we need to create a test directory structure which we can copy to the import folder directory. It will need the top directory to be customer and the second directory to be drawing. We will use the following:

C:\temp**\WidgetMaker\10-98765**

Inside this directory (10-98765), we will copy a sample NC file, we will also create a REV-01 folder to provide an additional example of how a structure can be created this way.



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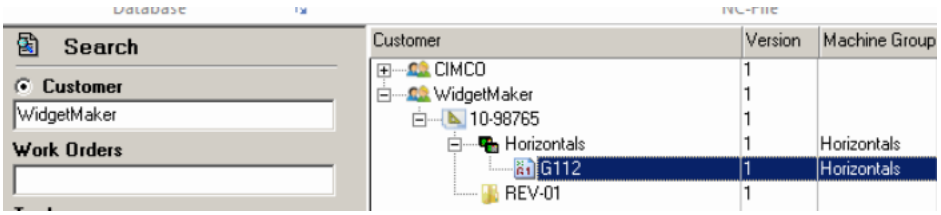
We will then copy the WidgetMaker folder to **C:\NC-DATA\TRANSFER\FOLDERIMPORT**

After copying the folder, return to MDM, search for the customer **WidgetMaker** and expand all the results. You will see the customer has been created with the drawing and NC file imported underneath:



4. Sending and receiving files

To send and receive files using CIMCO MDM, you have the options to use DNC-Max settings or MDM itself. In cases where serial machines or higher network protocols such as FANUC FOCAS or Heidenhain are employed, DNC-Max should be used. DNC-Max should also be used if you have two or more machines in your Machine Groups, unless those machines share a common directory somehow. In all other cases, you often have a choice between using MDM or DNC-Max. Let us start by looking at how to configure DNC-Max for sending and receiving files.

4.1. Send and receive files using CIMCO DNC-Max

DNC-Max is configured by default to send and receive files, those settings are all set up per usual norms. The only thing you need to do with MDM is check and specify the correct folders where the files will arrive in DNC-Max for the Import Queue and make sure it matches. This is reason #1 that DNC-Max is the preferred way, the additional methods are covered below for informational reasons.

It may be useful if you have an odd case to sometimes utilize MDM. The main case where this might be desirable is when MDM is run as a stand-alone product due to tight budget constraints or if a competitors DNC is firmly entrenched.

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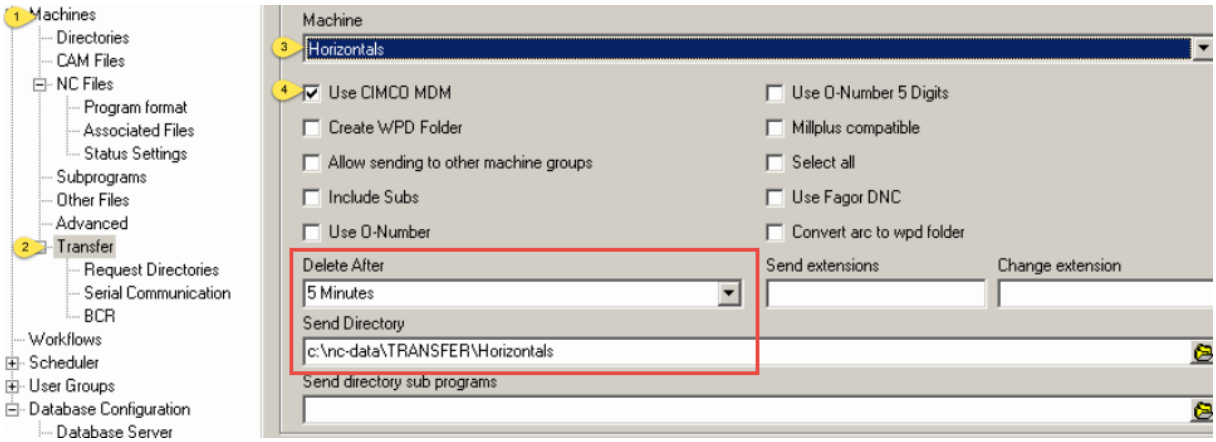
4.2. Configuring MDM to send and receive files

This was touched on in the previous section for remote request and the Import Queue. The Monitor Directories you configured earlier are the **receive** directories for MDM. To configure MDM to send files (rather than DNC-Max) access the **Machines** > **Transfer** settings and enable the option **Use CIMCO MDM**. Also specify a directory to send the files to. See below.



It is important to note that if you want to use MDM for sending files, you will need a unique Machine Group for each machine, unless of course the machines have access to a common directory.

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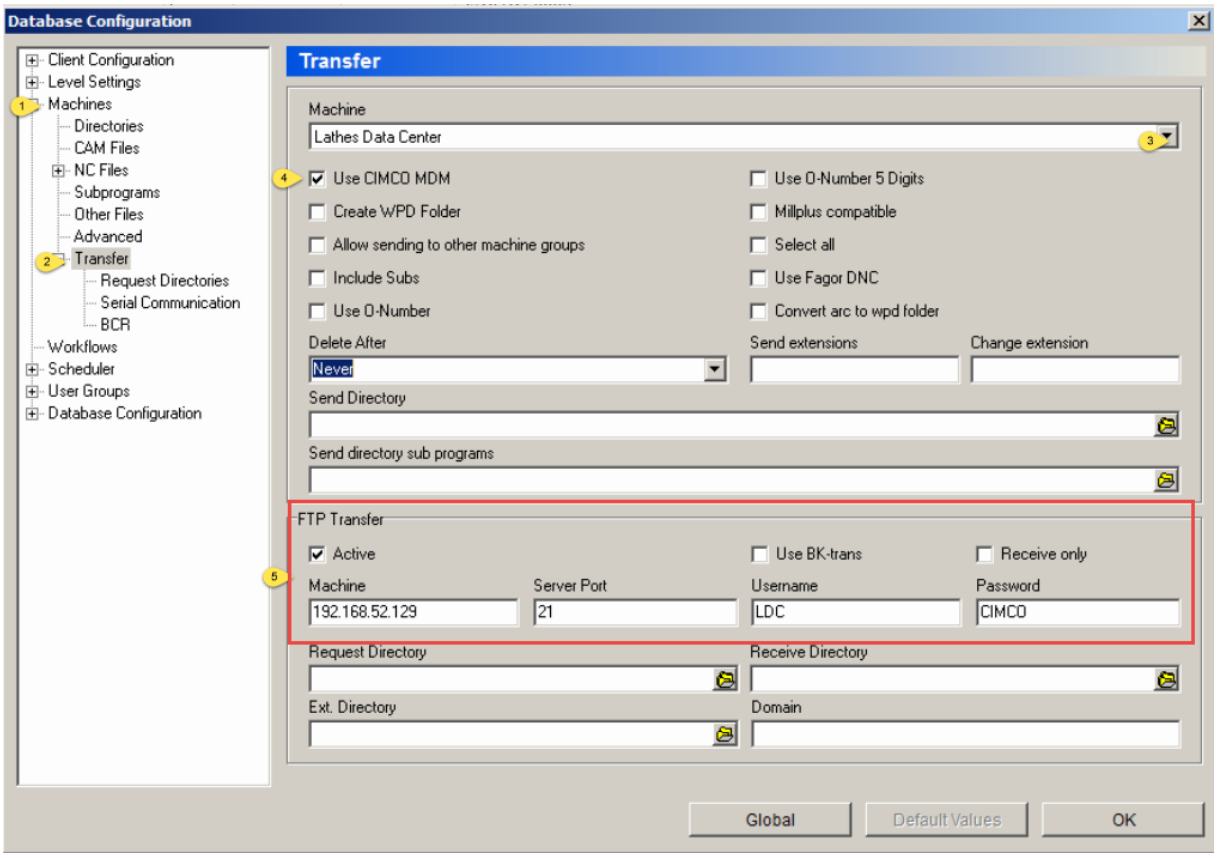
4.3. Send and receive files using an FTP server

To setup MDM to talk to an FTP based machine directly (not through DNC-Max settings) you can configure this under **Machines** > **Transfer**. Enable the **Active** option for FTP Transfer as pictured. The files will then be sent to the root directory on the FTP server based on the credentials specified.



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Client Settings

1. User Groups and permissions

One extremely powerful feature in MDM is the permissions capabilities. With User Groups you get full control over who has access to specific options and what actions they can perform. In most cases User Group permissions supersede configuration settings. There are some examples such as Access Modes which enable you to override User Group permissions for individual levels. Generally speaking, a little thought and effort into the User Group permissions can make the user experience much better and allow for mission critical only type access for your distinct groups of users.

1.1. Case example

For our case we will be creating a few User Groups from scratch to provide a thorough example of how these permissions work. Before we start, keep in mind that **deny/read-only always supersedes allow/read**. So in some cases enabling every permission-option will result in more stringent permissions overall. Keep that in mind when setting your permissions. Also, a useful tactic for testing permissions is to run an MDM Client on a separate PC or terminal window while making adjustments so you can more quickly do live testing of your changes. Otherwise you will have to log out, change user and log in again repeatedly to test.

In our fictitious organization we are going to create these User Groups based on the following descriptions:

1. Programmers
   Users who work with CAD, CAM, and NC Programming.

2. Machinists
   Users who alter NC Programs and Operate the CNC's.

3. Operators
   Users who run established programs on the shop floor.

4. Supervisor
   Managers familiar with and responsible for the entire machining and programming departments, including management of the MDM platform, well trained super users.

Creating Programmers Group

Open the Database Configuration and go to **User Groups**. Begin by creating a new User Group as pictured below. For now we will select the **Main User** in the **Global Permissions** dropdown menu. If you have another User Group that closely mimics the new one, you have the option to select that instead in **Global Permissions** and the permissions from the selected group will be copied to the new one. A good example might be where you have a Milling Department, Lathe Department and people who handle both. These users will have basically the same permissions just applied to groups of/individual machines they need to access in their role.

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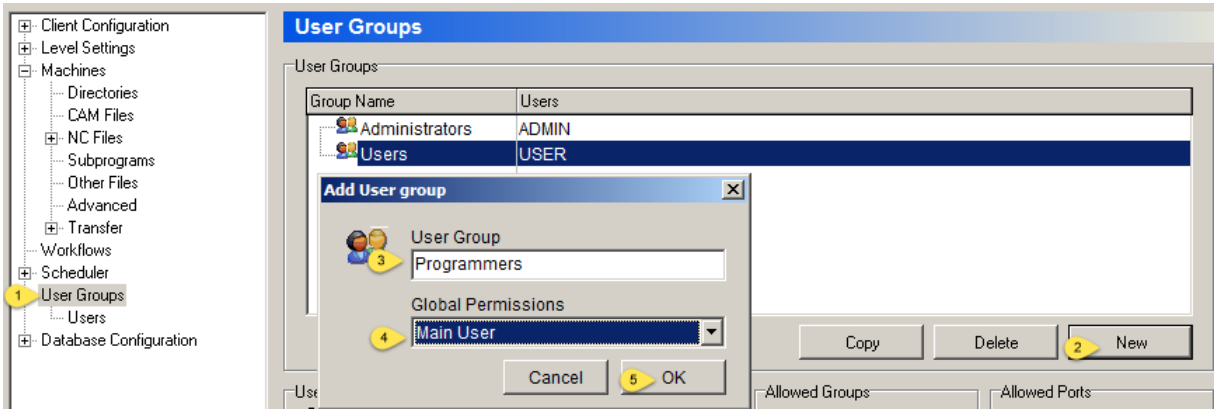
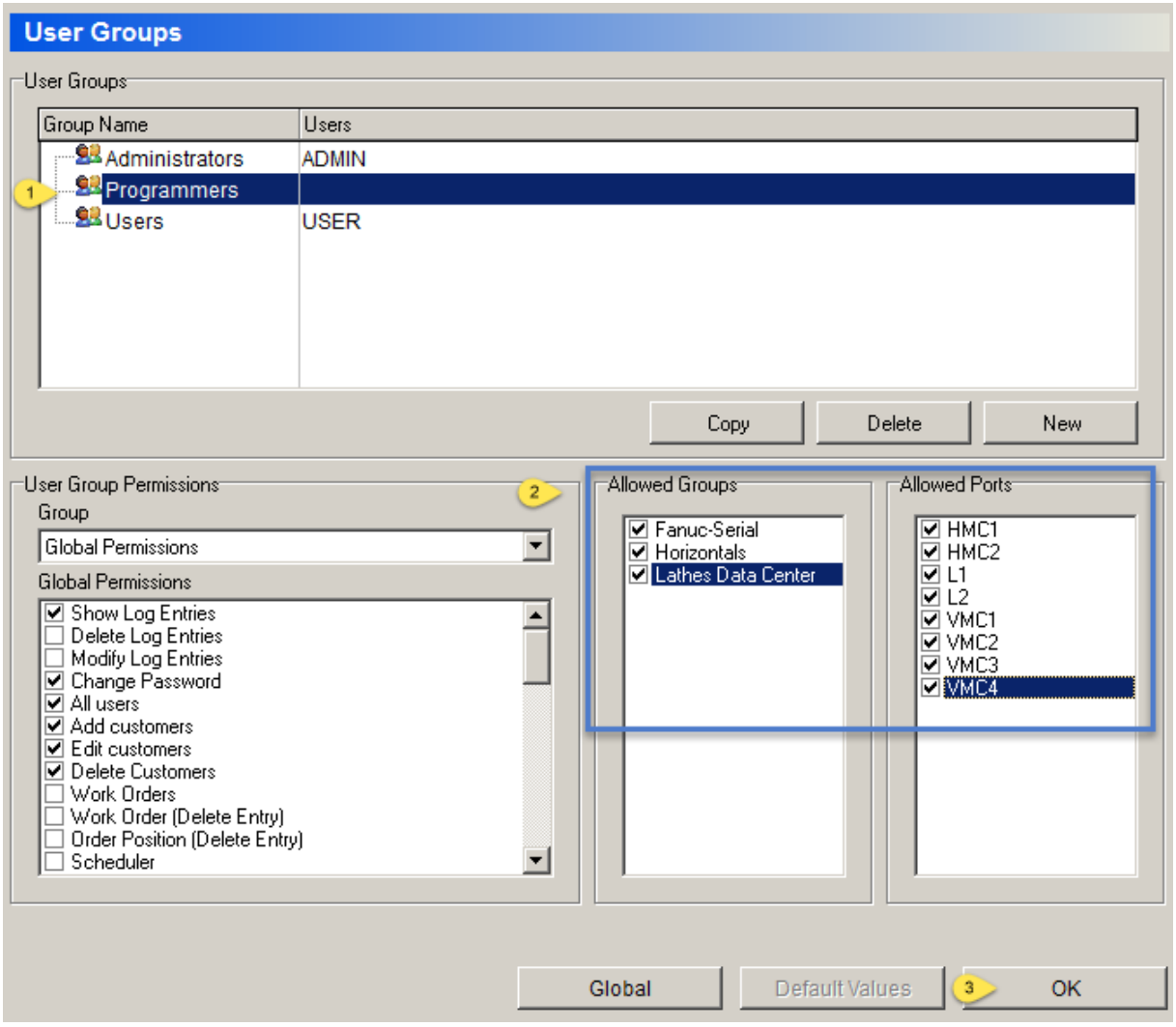


We will now assign the Machine Groups and Ports that Programmers have access to, basically all of them. Follow the steps below in the screenshot.



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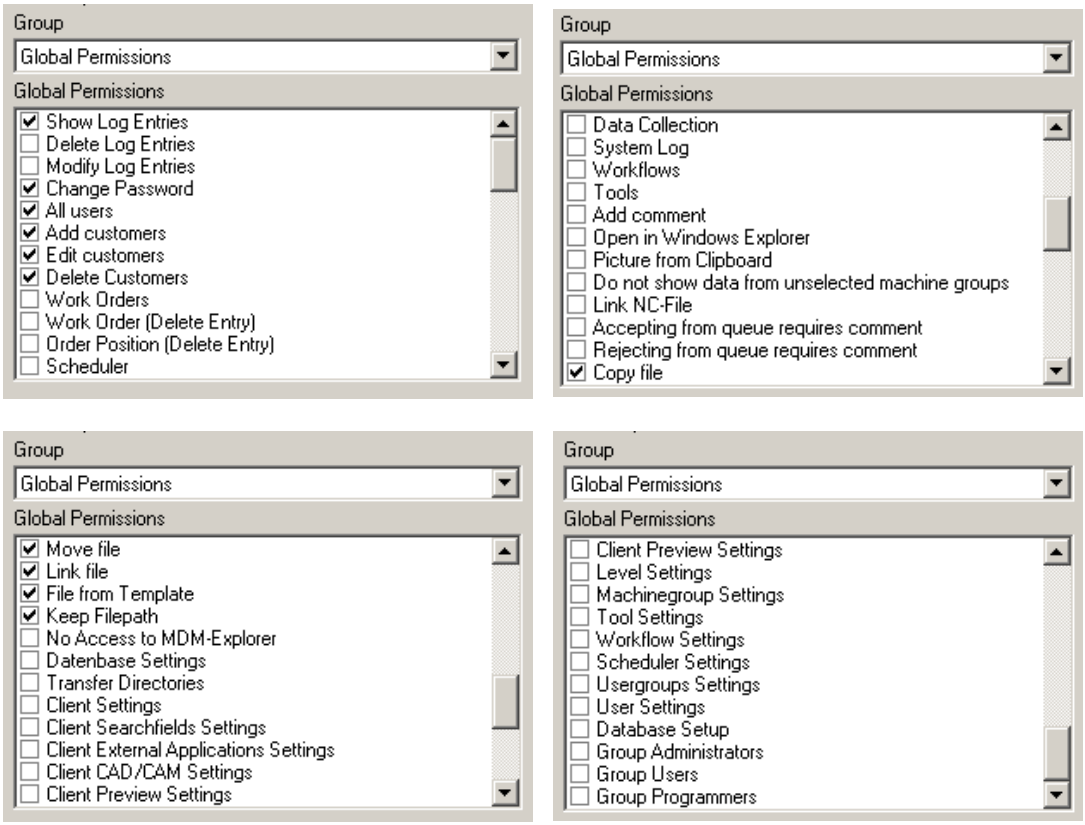
Global Permissions

Next, let us look at the **Global Permissions** group and review the permissions that have been copied from the **Main User** permissions (four screenshots in total, showing defaults).



We can see that these users have extensive capabilities including adding, editing and deleting customers. Deleting customers is probably not something Programmers should be capable of - that should be reserved for our Supervisor. So, let us start a list of things we want to change:

1. Disable Delete Customers

The rest actually looks like a good baseline for a Programmer and we only need to **disable** the **Delete Customers** permission. Next, we can move on to configure the various level permissions.

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Level CAD-File

The default permissions for the **Level CAD-File** are the following ("CAD-File" is implied):

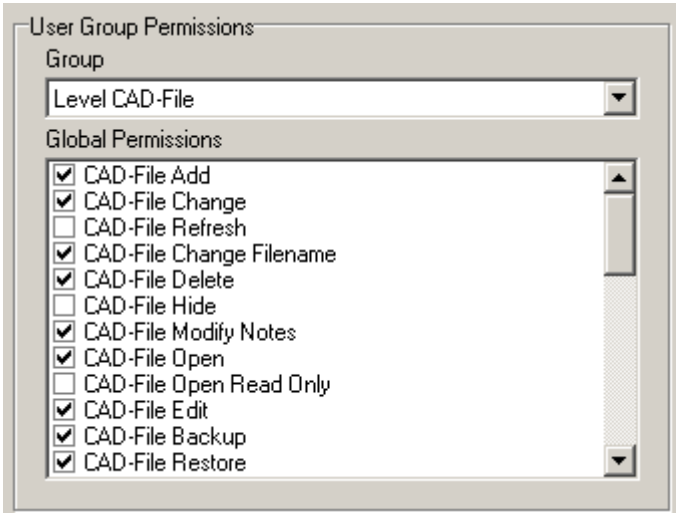
Change, Change Filename, Delete, Modify Notes, Open, Edit, Backup, Restore, Print, Excel Export, Status, Copy, Link, Cut, Start Workflow, Change Default File Action, Change Default File Name.

Of these rules, the following should probably be un-checked for our Programmers group, as they are not critical to programmers:

Disable **Change Default File Action** and **Change Default File Name**.

The following permission should be enabled: **Add**

Enable and disable those permissions as (partially) pictured below:



Levels: CAM-File, Drawing, NC-File, Other-File, Revision, Setup-Pictures, Setup-Sheet, Tool-List

Permissions for these levels are identical to the Level CAD-File we just configured, make the same changes to these.

Level Customer

For the customer level, we need to enable: **Add** and disable **Delete, Change Default File Action, Change Default File Name**.

When done, click the **OK button** to save and close.

In a similar way you create User Groups for Machinists, Operators and Supervisors. Experiment with permissions as needed. We will not go deeper into settings permissions.

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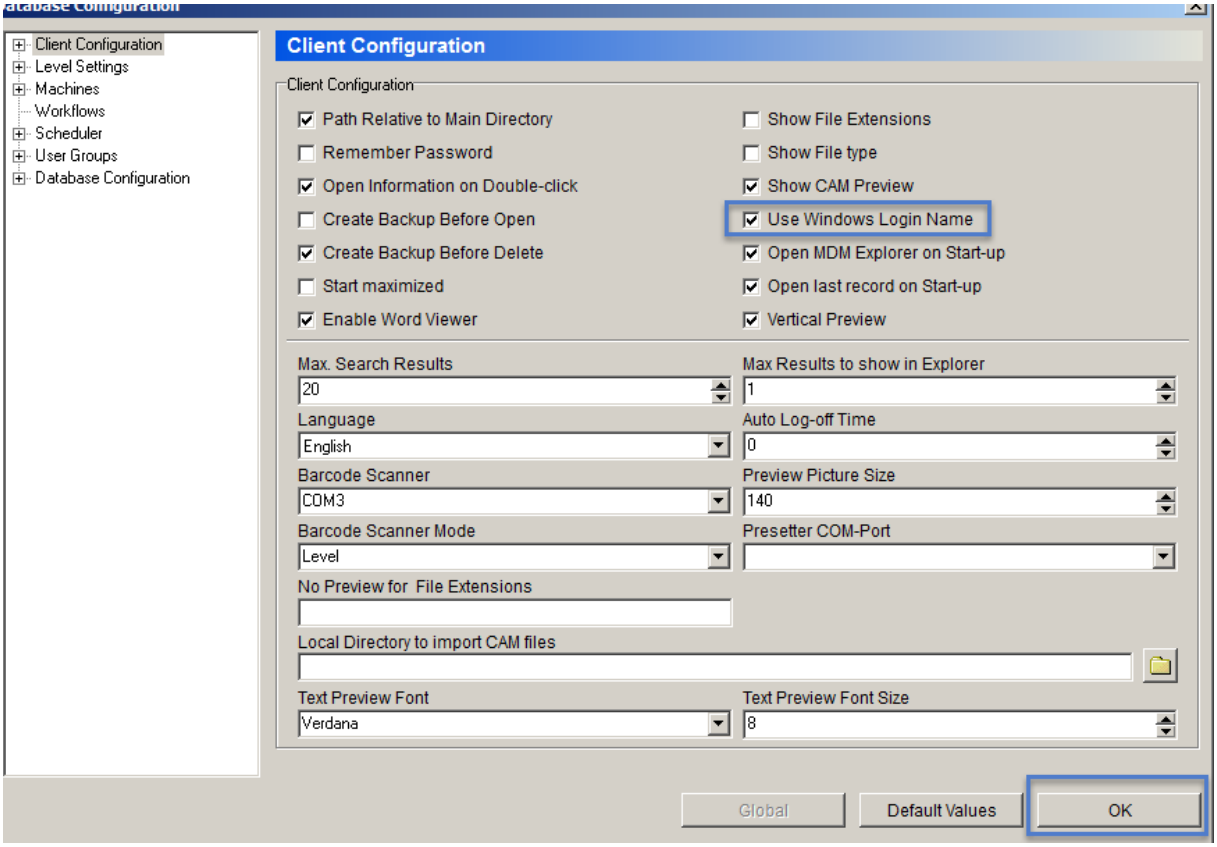
2. Windows Login

One way to speed up access to CIMCO MDM is to utilize the Windows login option **Use Windows Login Name** which can be enabled in the **Client Configuration**. By enabling this option, MDM will use the current logged on user of Windows as the username, effectively using Windows authentication to manage MDM logins.

This eliminates the need to type in a password, but the Windows username has to match the username in MDM for this option to work. The password is no longer needed whether or not one has been set for the user in MDM say in case the user wants to access MDM somewhere else.

To enable this option go to **Database Configuration** > **Client Configuration** and enable **Use Windows Login Name**.



Note: if the current logged in user in Windows does not match an MDM username, the MDM Client will not launch. If this occurs the username can either be added in MDM using a different computer or the option can be disabled by altering the following line in C:\CIMCO\MDM\CFG\Settings.ini:

ClientWindowsUserLogin=y

Change to:

ClientWindowsUserLogin=n

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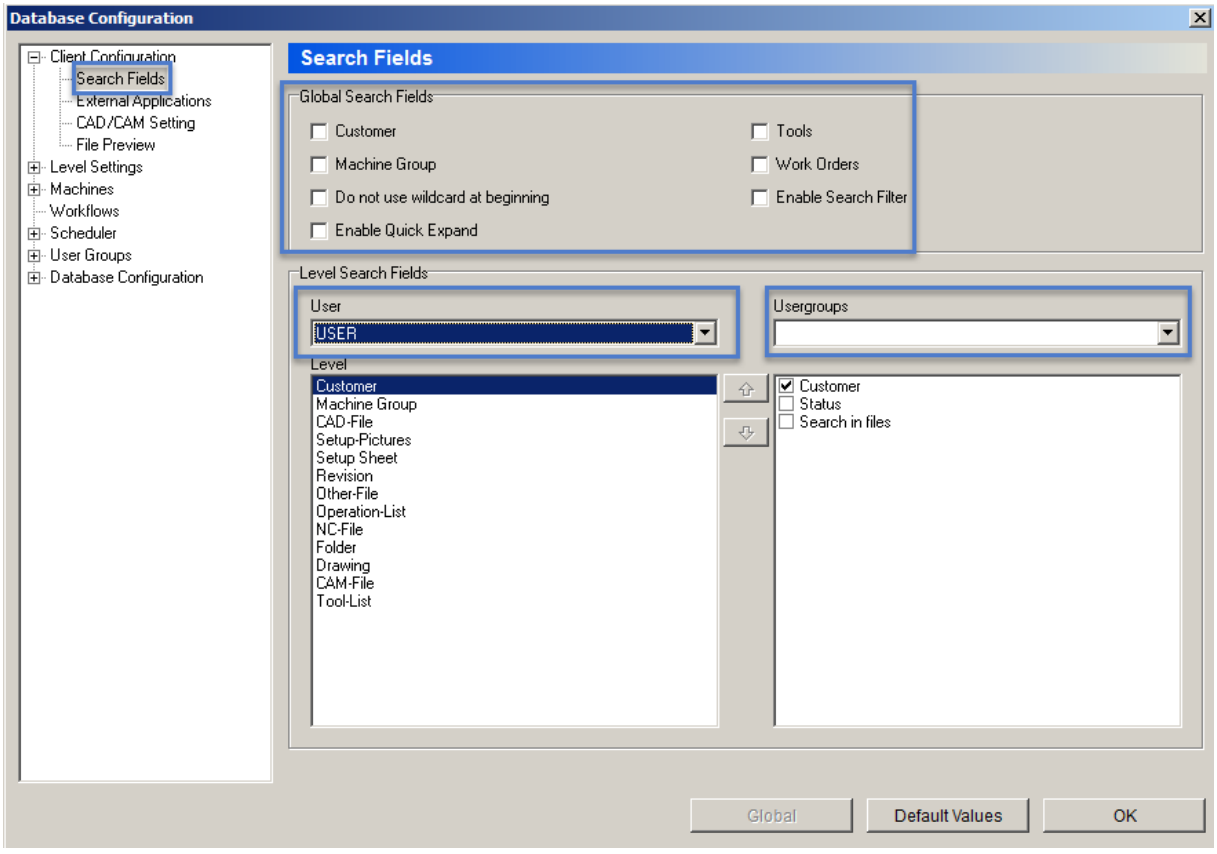
3. MDM Client

Since your users have different roles and may have different needs, the MDM Client can be modified on a per PC basis. These changes are stored in the C:\CIMCO\MDM\CFG\Settings.ini and this file can be copied or even shared depending on the customer requirements.

Keep in mind that the settings.ini for a client PC will be different from the settings.ini on the server as the server will reference localhost. That is not the only difference, but it may be useful to know this. It is a common practice to copy a settings.ini file from a client and apply it to other clients where the settings might be altered to be a better fit for the customer for example. You can do the customizations through MDM and the next steps will detail those changes.

3.1. Configure search fields

One area where the MDM Client can be altered is by configuring which search fields are visible. This is done through **Database Configuration** > **Client Settings** > **Search Fields**.



In the above screen you can finetune the requirements of the user. Let us start by looking at the **Global Search Fields**, which will give us control over the MDM Client interface on this PC (the server PC in this case)

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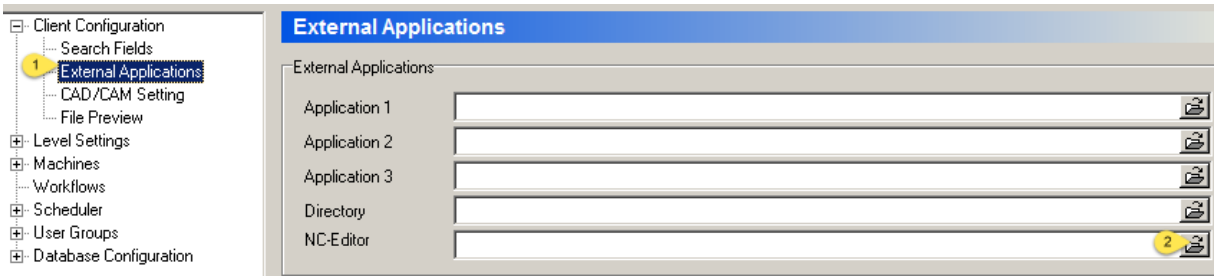
3.2. Setup NC-Editor

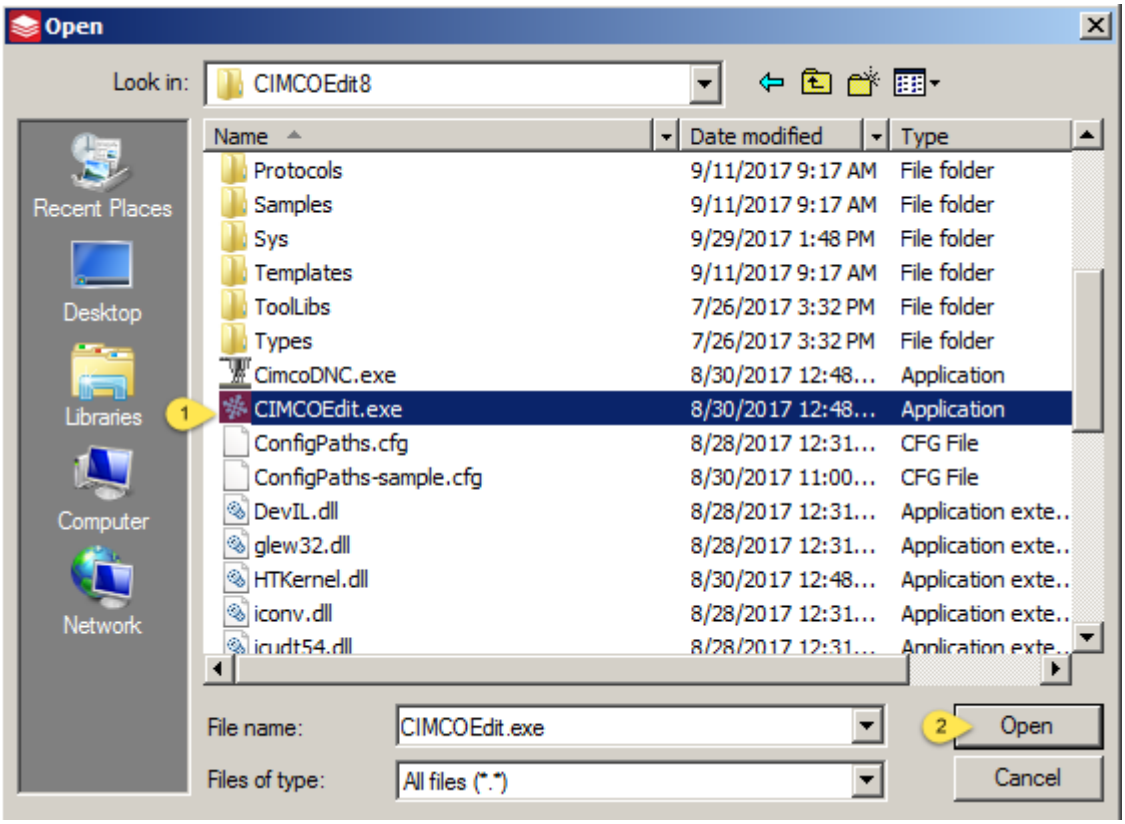
One of the client configuration options allows you to configure External Applications for different file types. In our example we are going to set up CIMCO Edit as the default NC-Editor.

Note: It is strongly recommended that customers have a 1 to 1 ratio of CIMCO Edit for anyone using MDM. Especially if the file compare function is required. Without CIMCO Edit, the compare function in the Import Queue and File Restore will not work.

To get started using CIMCO Edit in conjunction with MDM, access the **Database Configuration** > **Client Configuration** > **External Applications** > **NC-Editor** and click the open folder icon as shown below.



The default path for CIMCO Edit is C:\CIMCO\CIMCOEdit8\CIMCOEdit.exe - browse to that folder, select CIMCOEdit.exe and choose click the **Open button.**



The default NC-Editor will now be configured and available to use when comparing and interfacing with NC-Files.

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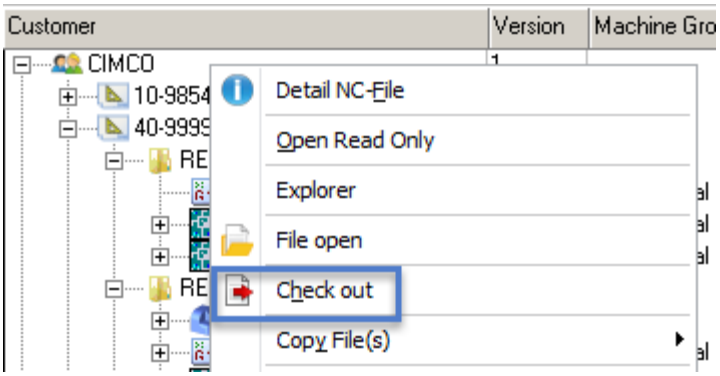
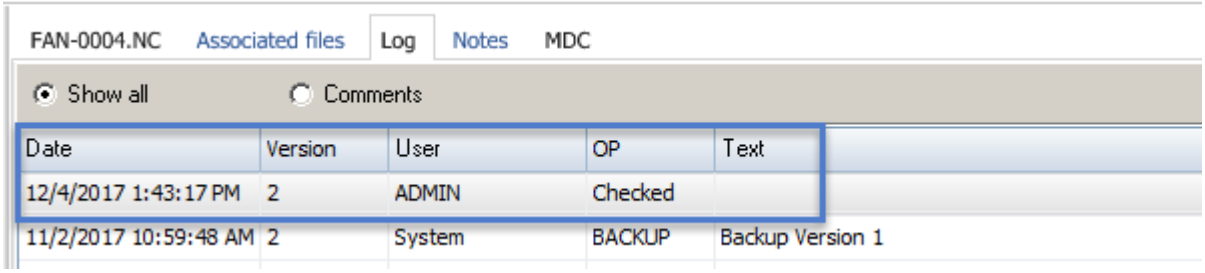
General

1. Check-In / Check-Out

Once your CIMCO MDM system is operational you can start to utilize a very useful feature - the checking in/out of production files. To do this, search for an NC file, any file will do, right-click and select **Check out** as pictured.



Once the file is checked out it will change to a red color in the interface, indicating that it is currently checked out by a user. Selecting the log for the NC file even shows who has it checked out, in this case ADMIN.



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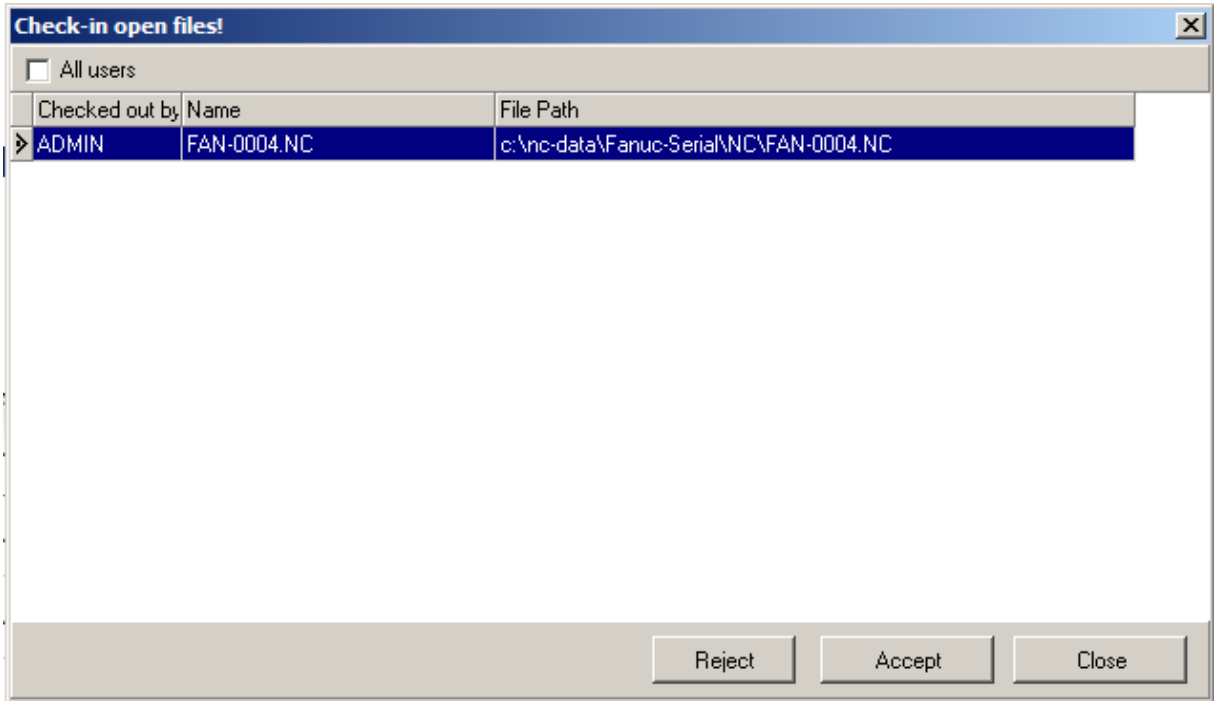
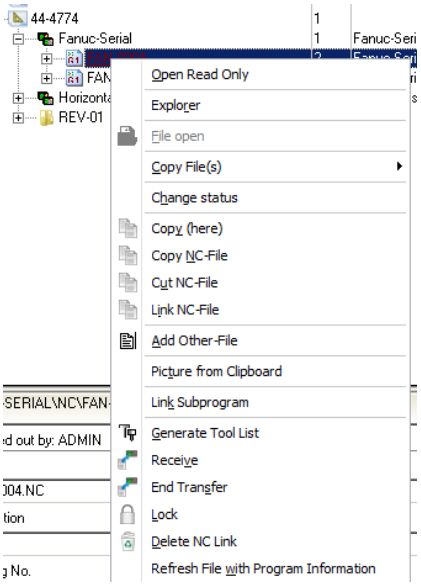
The Admin user can now make changes to the file without worrying about anyone else modifying or replacing the file. Furthermore, if the Admin forgets to check the file back in, they will get a notice if they attempt to log off or close their MDM client.



In this dialog they can choose to **Accept** changes, **Reject** them, or **Close** the client without taking action which leaves the file checked out. If another user then attempts to access the file, they will not be able to open it for editing or transfer it. See screenshot below.



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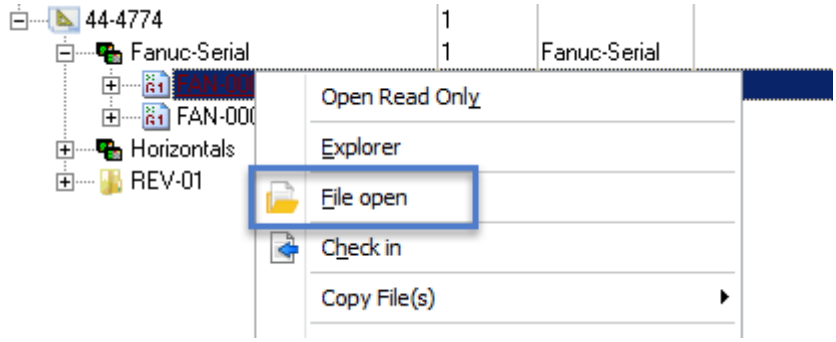
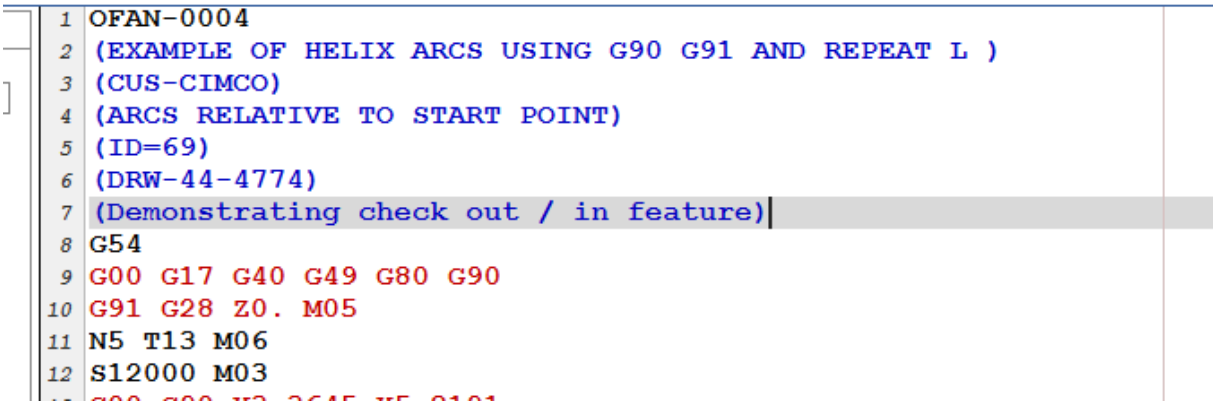
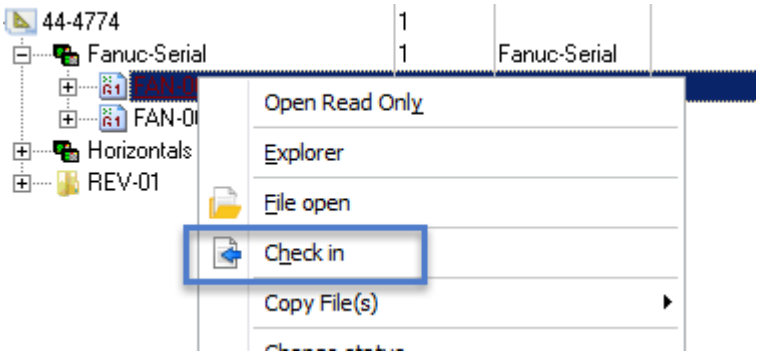
Log in as Admin again and make an edit to the file:



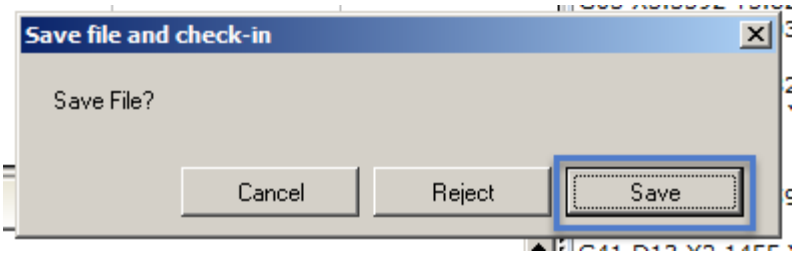
We will add a comment and save it. You can make multiple changes as needed in multiple sessions and save them each time:



Then make the last change, save the file and check it back in:



You will be prompted to Cancel, Reject or Save the changes. We know we are happy with the change so we click the **Save button**.



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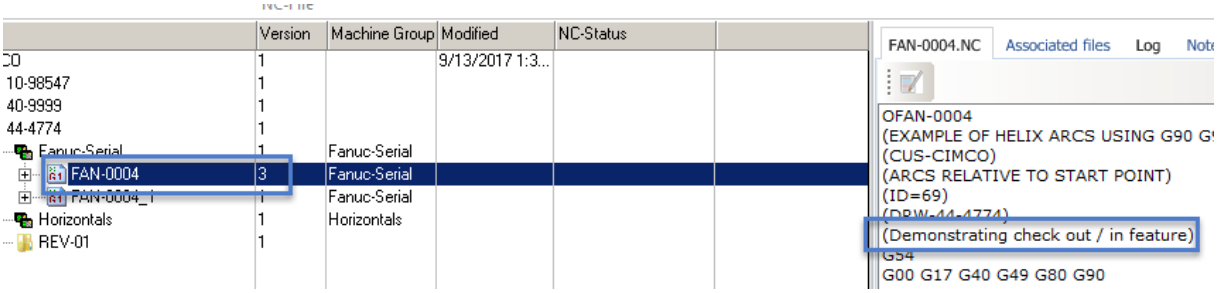
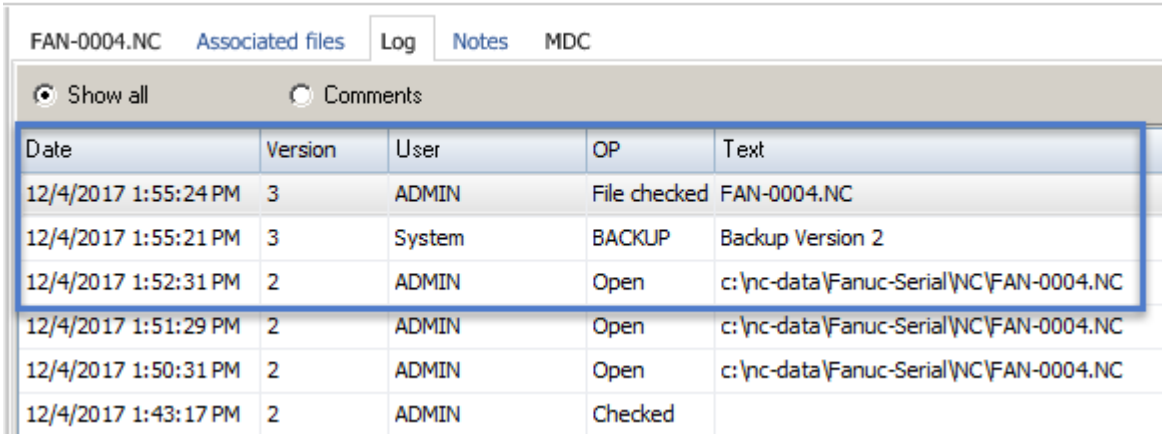
The file returns to its normal color, the version increments, the log updates and in the preview you can see the line of code that was updated.



And here is the log update.



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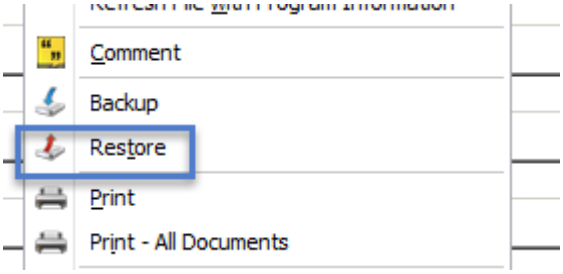
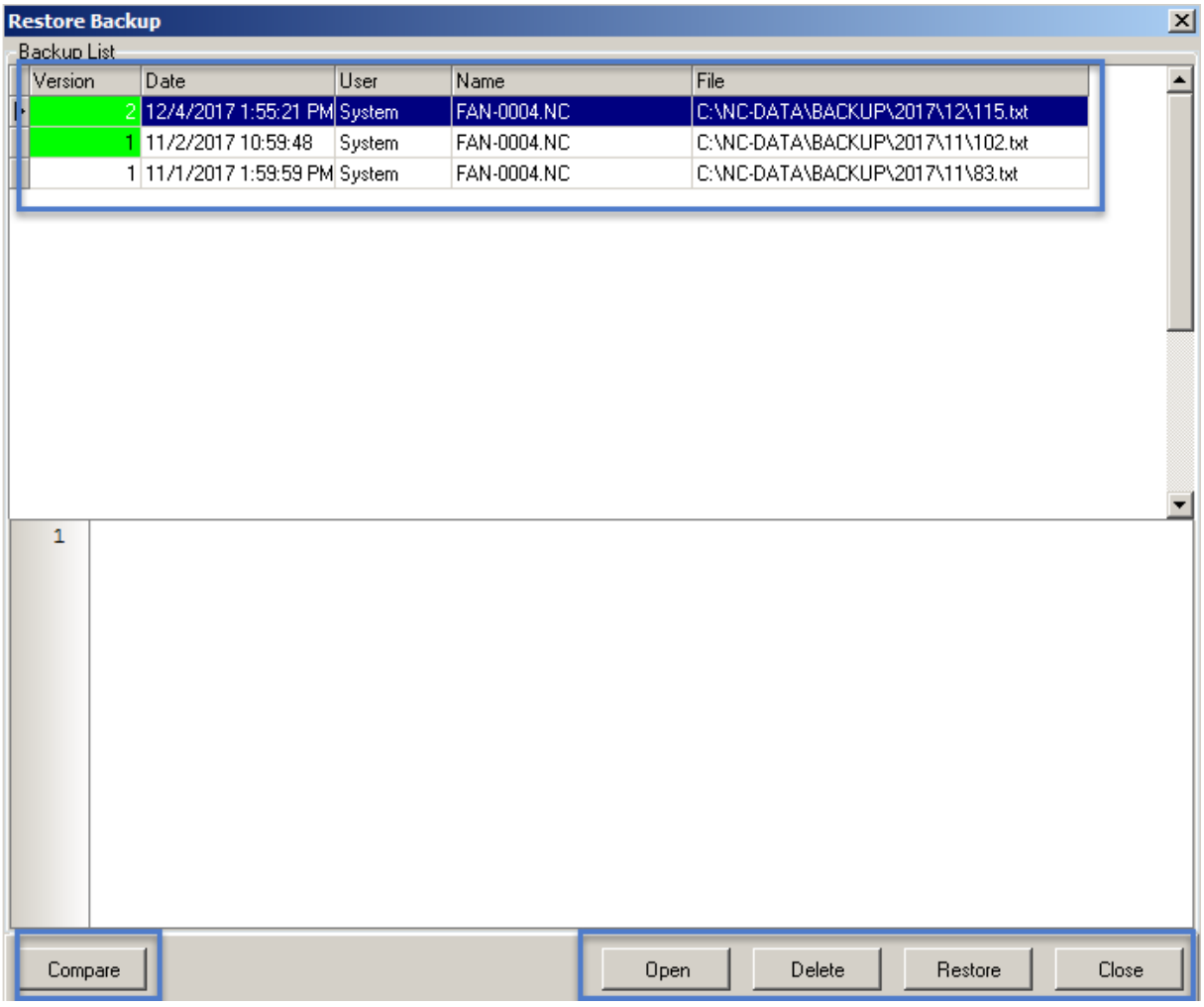
Right-click the file again and choose **Restore**.



You will see the available versions and have the option to Compare, Open, Restore and Delete them.



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Appendix

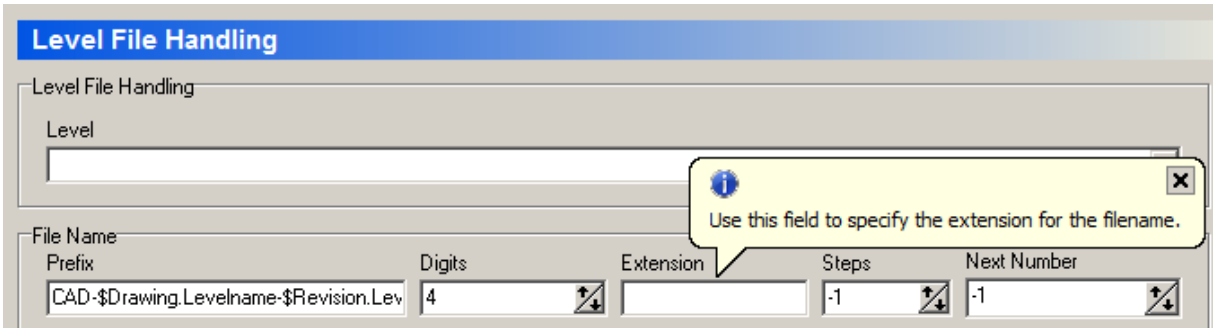
1. Help and documentation

1.1. Online documentation

The Online Documentation for CIMCO MDM is located at
http://www.cimco.com/docs/cimco_mdm

1.2. Tool Tips

If you are looking for information about a specific field anywhere in MDM you can hit the F1 key to display a tooltip, in this example we selected the Extension field and hit F1.



This information can be essential to get the most out of the MDM platform.

2. Expressions

In cases such as when configuring Import Triggers you may need to add or modify expressions to fit certain machines.

EX Exists
FP From Position
TP To Position
DEL delete
RANGE (Example 1,7)
NL next line
PL previous line
EXOC Exists outside comments () (Most machines) or ; (for Heidenhein, some Siemens)
!! Or
EOL End of Line

So, this expression: **EXOC[T];FP[T];TP[!!S!!M!!(!!EOL]**

Would mean: Exists outside of comments () an uppercase T, from position T to position (blank space), S, M or the end of the line.

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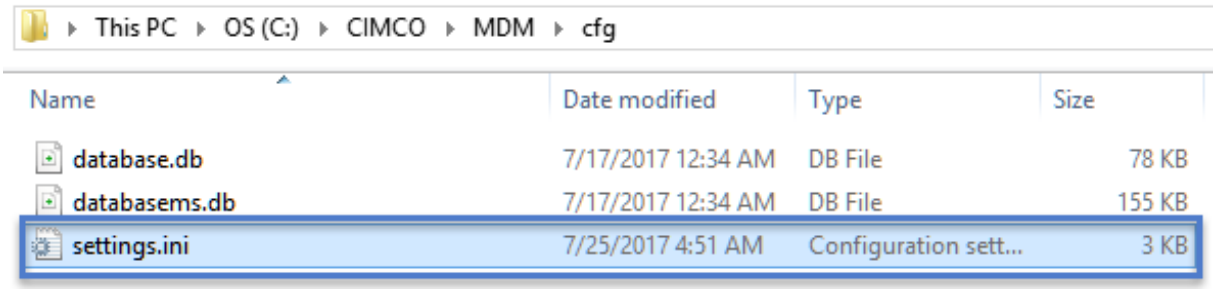
3. Demo Mode

While familiarizing yourself with CIMCO MDM one of the easiest ways to immerse yourself in the product and to get experience with different customer scenarios can be achieved by using demo mode.

3.1. Enabling Demo Mode

In order to enable demo mode this you must locate the settings.ini on the CIMCO MDM Server. It should be located in the CIMCO\MDM\cfg folder as pictured:



Please note: enabling demo data can delete much of your CIMCO MDM configuration. It is recommended that this is only done either before any configuration has been done or on a separate test/demo PC. Proceed with caution.

Change the line in the **[allgemein]** section near the top of the file (Line 13 in our example screenshot) to **DEMODATA=Y** as pictured:

```
1  ## CAMBASEGLOBAL ##############
2  [allgemein]
3  DbType=2
4  TOOLMANAGEMENT=N
5  Server=192.168.89.242
6  ServerPort=3306
7  Database=ncbase
8  Login=root
9  Passwort=-------------
10 CAMBASESERVER=192.168.89.242
11 CAMBASESERVERPORT=4450
12 SCHEDULER=N
13 DEMODATA=Y
```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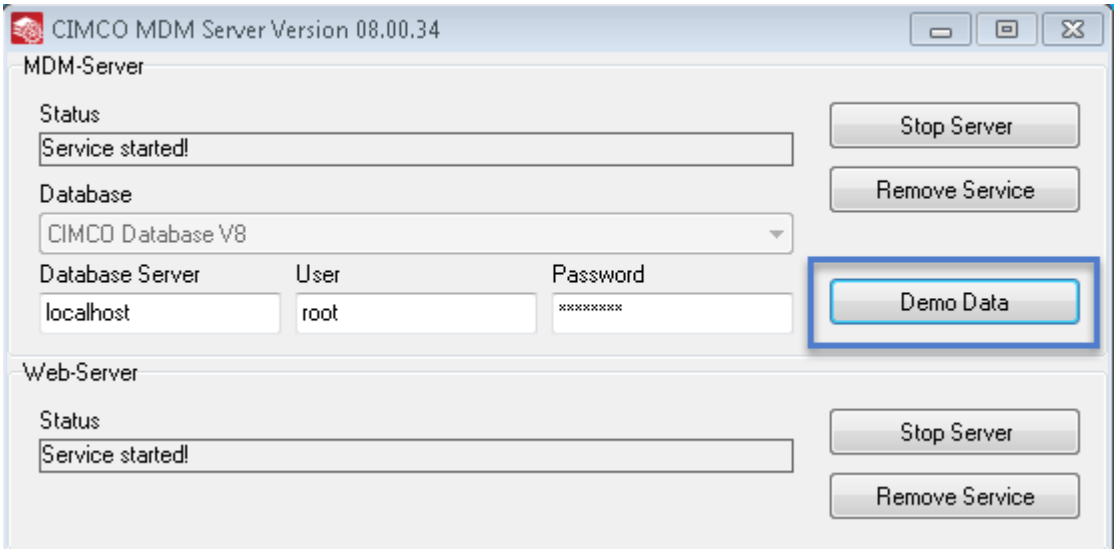
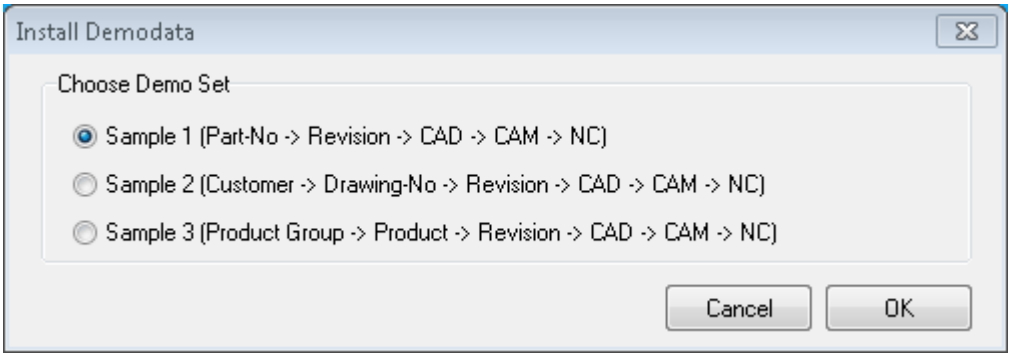
This will enable the **Demo Data button** in the CIMCO MDM Server (MDMSetup.exe in the CIMCO\MDM directory):



By clicking the **Demo Data button** you will be prompted with three different demo sets to choose from:



Once you click OK the demo data will then be live and available in the MDM Client.

4. Updating CIMCO MDM

When updating CIMCO MDM always do so in the following order:

1. Always update the server first!

2. On the server, run “server installation” and Start the server in MDM-Setup utility

3. Client Update. Just choose “Client installation”

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5. Useful Documents

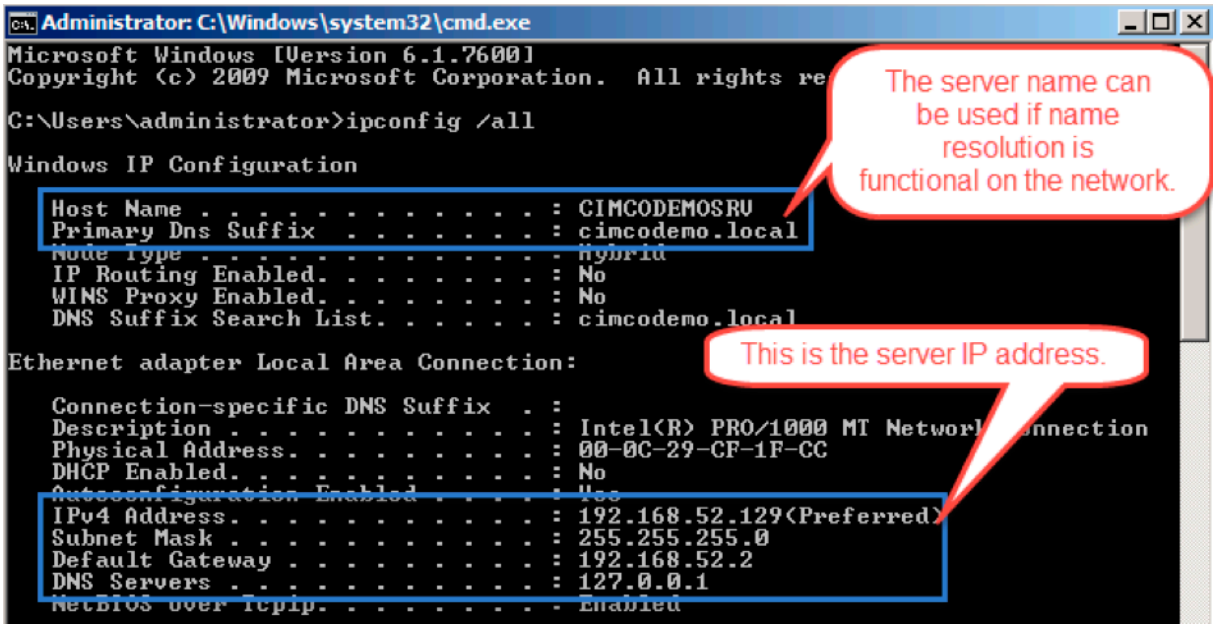
5.1. Machine List

Having a thoroughly filled out machine list can help not just with CIMCO MDM but with DNC-Max and MDC-Max as well.

6. Troubleshooting

6.1. Locating the Server IP Address

A static IP address is strongly encouraged for any CIMCO server. If your customer only allows DHCP to assign addresses, have them add a reservation for your CIMCO MDM Server. To see the IP address of the server, run **cmd.exe** and type **ipconfig /all** and hit the enter key. The result will provide you with the IP address information and hostname. The hostname and IP address can both be used for most purposes when configuring clients.



6.2. Running as Admin

When in doubt if something is not working the way you think it should. Run the corresponding program as administrator by right-clicking it and choosing that option. This will eliminate many permission related issues that can arise and you can work on the underlying issues once you know about it. This is common on a server that is part of a domain running active directory for example.

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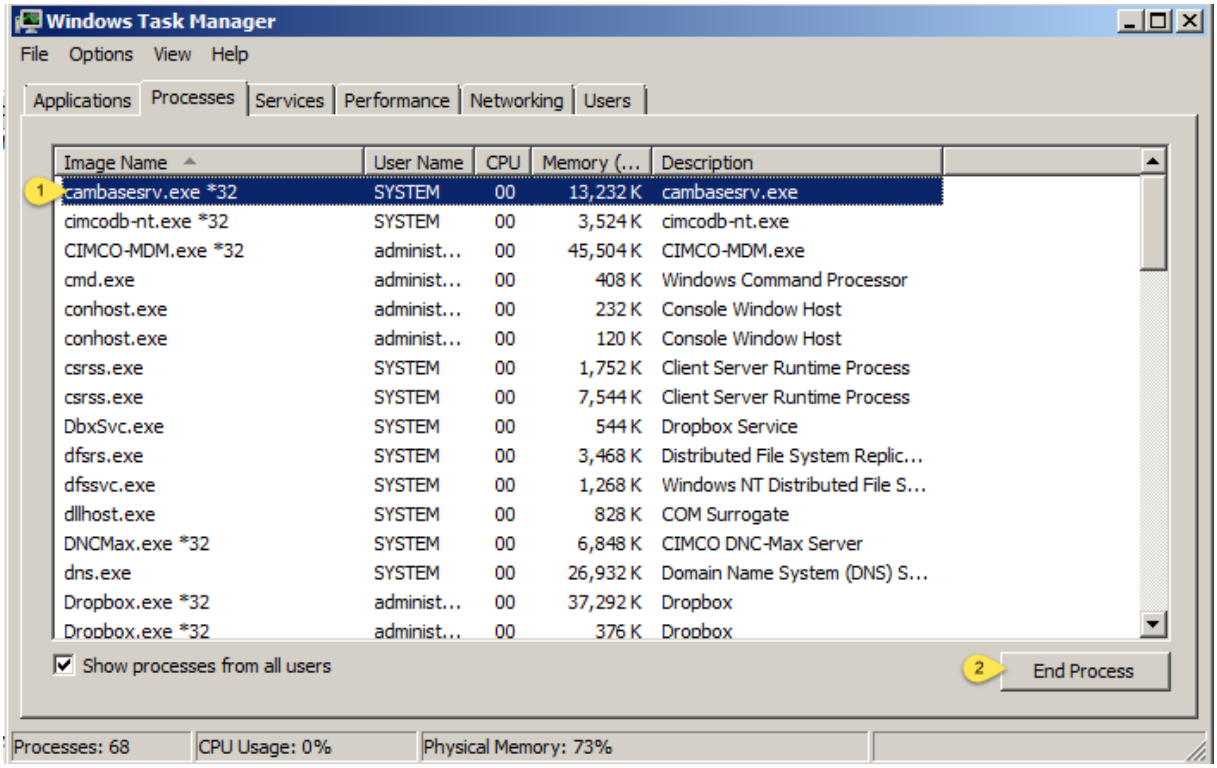
6.3. Force Changes to Work

Nearly all functions will work right away or after logging out/back in to the MDM Client. There are a few things that actually require restarting the MDM Server Service. If you ever find a function is not working the way you think it should, try restarting the client first and if that fails to resolve the issue, then restart the MDM Service.

To do this, start by running Windows Task Manager on the MDM server PC (ctrl+alt+del) then end the process cambaserv.exe as pictured.



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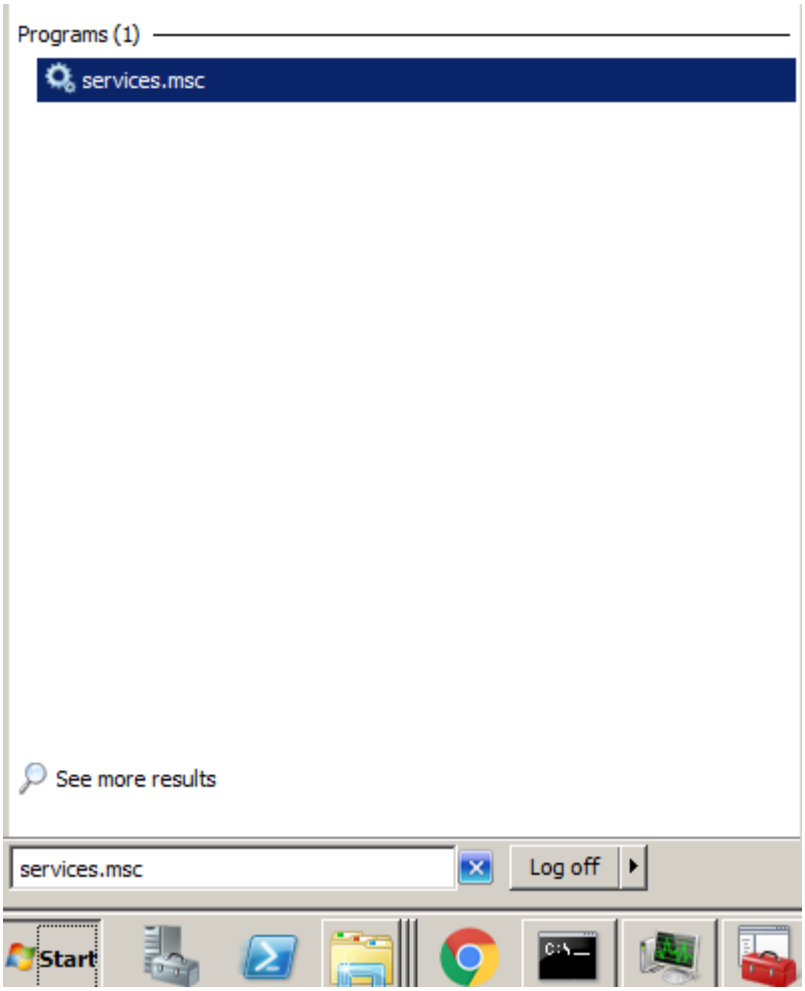
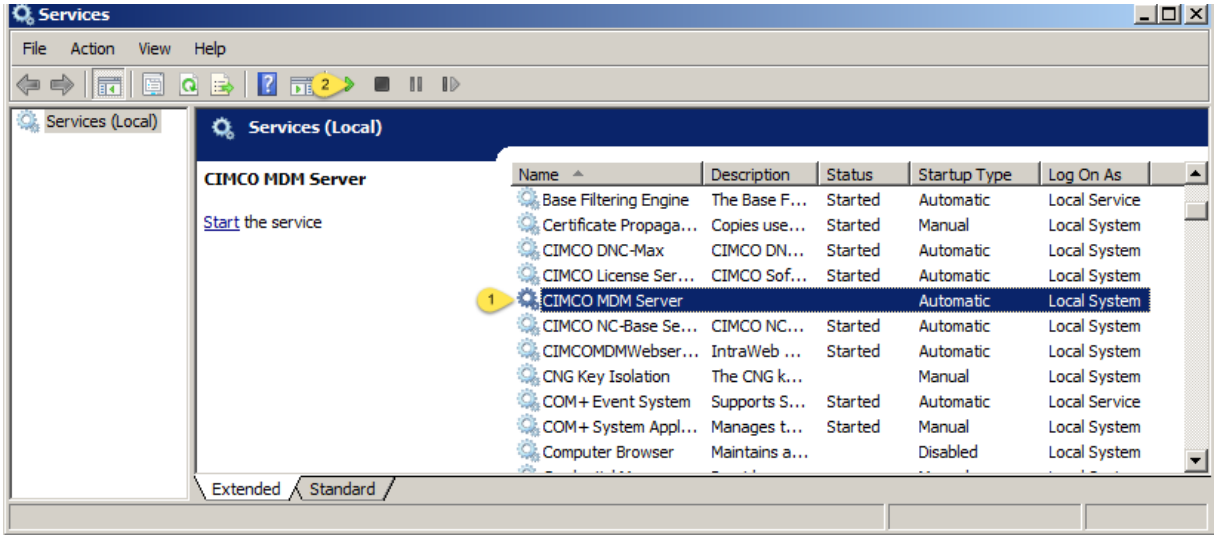
Then access services.msc.



And select and right-click to start or click the green start button for the CIMCO MDM Server service.



If it still does not work, the issue is caused by something else.

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