

Install and Maintain the E2 Manufacturing System

The information in this document is intended to guide you through the installation of The E2 Mfg System software. If you have questions or concerns along the way please feel free to contact your Implementation Specialist at (800) 677-9640 option 4 or the Support Department at (800) 677-9640 option 3.

Pre-installation

Please print and complete the **E2 Mfg Implementation Checklist** in the next section of this document (pages 3-5). This checklist is provided to help facilitate both the installation of the E2 Mfg software and give you a record of some of the ID's and passwords used to complete the implementation of the software. You should also expect to be contacted by a Shoptech Hardware Support representative to complete a certification of your server/network environment.

The following components are required to be in place prior to installing The E2 Mfg software:

- Someone from your organization should have received an email with information on downloading the software and your organization's Pin Code and Password. Please download the software now.
- Ensure that the File Server, Database Server, and client workstations meet or exceed the requirements listed here:
<http://client.shoptech.com/faq/Enterprise/Hardware/Install/E2ManufacturingSystemHardwareRequirements.pdf>
- The user that is installing the software will need to have Administrator rights.
- Disable User Account Controls (UAC) at least during the installation of the software. This can be done on the server/host computer by going to Control Panel | User Accounts | Change User Account Control Settings. Move the slider to the bottom. You may be required to restart the computer.
- **Very important: During the installation of the software you will be prompted to provide a user id that has Administrative rights. This user id will be used to run the requisite Windows service(s). You can create either a user that is local to the computer or a network user. If the user is a network user that doesn't exist locally on the computer where the services will be running, then this user must be added to the local Administrator group prior to the E2 Mfg Server installation. Since the E2 Windows Service will use this user to "Log on as", you may want to set this user so the password does not expire. It is recommended that you login to the server/host computer as this user before installing the software. While logged in as this user, you should set up printers. This will be important should you choose to use some printing features in E2 Mfg. You should also determine the Date/Time format you would like to use. In Control Panel | Region, you can specify these formats. The E2 Mfg System supports both**

M/D/YYYY or D/M/YYYY and h:mm:ss tt or hh:mm:ss tt and their variants.

****It is critical that the selected Date/Time formats set for the E2 Windows Service user on the server are also set at all workstations.***

- E2 Mfg Edition requires the use of a Microsoft SQL Server to store the database. If you already have a Microsoft SQL Server that is running an appropriate version of SQL Server per the hardware requirements, you will be able to utilize your existing server during the installation of E2 Mfg. You may find that SQL Server is already installed as a part of some other third party software like Symantec Backup Exec, Red Wing CenterPoint, UPS Worldship, or Microsoft SharePoint. If that is the case, then you should consider installing a separate instance of SQL Server. If you do not have an existing MS SQL Server, you will need to obtain and install SQL Server prior to installing E2 Mfg. If you need to purchase SQL Server, please consider contacting your Shoptech E2 sales person to get a quotation.
- E2 Mfg requires that you have Mixed Mode (Windows and SQL Server authentication) enabled. You will also need to provide a SQL Server Login ID that has the “sysadmin” server role.
- Additional Database consideration: check the default Database location set for SQL Server prior to installing E2 Mfg. To do this; open the SQL Server Management Studio. Login to the SQL Server. Right click on the SQL Server name at the top of the Object Explorer. Select Properties. On the Database Settings page, review the Database Default Locations. Make sure that the file paths listed here point to the location where you would like your E2 Mfg database created.
- If you are using a **Workgroup** as opposed to a Domain for your network and will have the E2 Mfg application and MS SQL Server installed on different computers, then please contact Shoptech Support at (800) 677-9640 option 3 or by email at techsupport@shoptech.com for additional instructions you will need prior to installing E2 Mfg.
- .NET Framework: version 4.62 – These items will need to be installed on the server/host computer as well as all client workstations that will be using E2 Mfg Edition. You can confirm these items have been installed by opening **Control Panel | Programs and Features**. If these items are missing you will need to obtain them from the following locations:
<https://www.microsoft.com/en-us/download/details.aspx?id=53345>

If any of the above items are missing, the installation will terminate and you will need to rectify the problem before continuing.

During the installation

The following components are also required. If they are not present prior to the installation, they will be installed during it. It is **highly recommended** that you have these items installed before installing E2 Mfg as allowing the installation to do them for you will take a considerable amount of time and may require a restart.

- Windows Installer
- Microsoft XML: 6.0

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E2 Mfg Implementation Checklist

Server Installation

In order to expedite the process and avoid unnecessary delays during the E2 Mfg System server installation, it is recommended that you have the items listed below available and/or installed on the computer that will act as the E2 Mfg System Server prior to the actual software installation. Some of these items are pre-requisites and the installation wizard will not allow the process to continue if they are not in place at the time of the installation.

We encourage you to complete the following checklist and keep this information on file for future reference. You can fill in the blanks with the appropriate values.

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		Date:	Verified by:
1.	Server/host computer with a Supported Operating System (OS)	_____	_____
	Computer Name: _____ OS: _____ Windows Server 2012 Windows Server 2016		
2.	Windows User ID with Admin rights to perform the installation (This can be the Administrator account.)	_____	_____
	User ID: _____ Password: _____		
3.	1.4 GB of free hard drive space.	_____	_____
		Date:	Verified by:
4.	.NET Frameworks: versions 4.62 or higher	_____	_____
5.	If using an existing installation of SQL Server to host the E2 Mfg database	_____	_____

	<p>SQL Server Name and version:</p> <p>_____</p> <p>SQL Server 2008 or 2008 R2 (Workgroup, or Standard) SQL Server 2012 or higher (Standard, Business, or Enterprise)</p>		
6.	<p>A SQL Server login and password to be used during the installation of E2SS (this login must have the sysadmin role.) In most cases the “sa” account will be sufficient.</p>	_____	_____
	<p>Login: _____</p> <p>Password: _____</p>		
7.	<p>A Windows User ID with Admin rights that will be used to run the E2 Mfg Windows services and Scheduled Task for automating updates. This User should be a Domain User that is a member of the Domain Admins group and must also be member of the Administrator group on the server/host computer. Make sure you have logged into the server as this user to set up printers.</p>	_____	_____
	<p>User ID: _____</p> <p>Password: _____</p>		

Installing the E2 Mfg System Software

1. Logged into your server, locate and extract the contents of the E2MfgEdition.zip file that you have downloaded or click [here](#) to download it now.
2. Locate the file called **Shoptech E2 Mfg Server.exe** and open it.

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3. If any of the above pre-installation components are not installed or configured properly, you will get a warning message telling you what is missing and the installation will terminate.
4. Choose **Install E2 Mfg**, click **Next**.
5. On the **Welcome** dialog screen, click **Next**.
6. On the **License Agreement** window, check the checkbox to **Accept (after you have read the terms of the license)**. Click **Next**.
7. Complete the requested information as prompted on the User Info window. You can find your Pin Code in the documentation that you were sent when you received the software. Enter your Pin Code and click **Next**.
8. The Destination Folder will default to the local Program Files directory. If you would like the application to be installed to a location other than the default you can set this here. Check the checkbox to indicate that you are installing the software to a local hard drive. Click **Next**.
9. Select the SQL Server that you will be using to store the databases for E2 Mfg. If your SQL Server is not in the list, you can type in the name of the SQL Server instance that you would like to use. Enter the name that you would like to use for the name of your database. You can either accept the default of E2 Mfg or enter something else, like your Company's name.
10. On the **Database User Information** screen, enter the ID and password of your SQL Server administrator. (Number 6 on the Implementation Checklist.) This login will need to have the **sysadmin** role and will be used to create the database and two SQL Server logins that will be used when the application is started from a client and the user logs into the application. You can use the "sa" ID if you prefer.
11. The installation will now verify that the information you have provided is correct. This will take a few moments. If the verification fails you will be prompted to re-enter the SQL Server name and login information.
12. On the **E2 Automatic Update (Scheduled Task)/Windows Service Configuration** screen, you will need to enter the ID and password of the user set up in Bullet 5 of the Pre-Installation section above. This ID must be set up as a user local to the computer where the E2 Mfg Windows Service will be running. You should also make the user a member of the local Administrators group. You can change the time that E2 Mfg will check for updates. Click **Next**.
13. The installation should proceed. During this portion of the installation, the program files will be put in the proper place, a scheduled task to update the application will be created, a sample SQL Server database will be created and seeded with data, the E2 Mfg service will be started, and

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the temporary installation files will be deleted. Please allow this to complete.

14. The installation is now complete.

15. To start the application, double click on the **E2SS Office** icon. Enter **Supervisor** for the User Code and **pass** for the password. Click **OK**. You are now ready to begin using the software. Please refer to the Implementation and Users Guides for more information.

At this time, it would be a good idea to install the AutoVue software on the server as well. AutoVue is a 3rd party program that is used to print files, like drawings, from in E2 Mfg. Please see the Additional Resources section below for instruction on installing 3rd Party Applications.

If you will be using Ethernet collection terminals for tracking your employee's attendance and labor, you will need to install the E2 Data Collection service as well. Please see the Additional Resources section below for instruction on Installing and Configuring E2 Data Collection.

Installing E2 Shop System on Client Workstations

Pre-installation

The following components are required to be in place prior to installing the software

- Operating system: Windows 7 or newer
- You will need to be able to login to the computer as a user with rights to install programs on the computer.
- Set the Date/Time formats to match what was set prior to installing the software on the server.

If any of these requirements are missing, the install process will be terminated and you will be advised to meet these requirements before you can continue.

The following components are required on each workstation. If any of them are missing, they will be automatically installed.

- Microsoft Installer: 3.0 and 3.1
- .NET Framework: 4.6 or higher (It is highly recommended that you have these installed before installing the E2 client. Installing the .NET framework will add considerable time to the installation process and could also require multiple reboots depending on how many of the .NET Framework components are missing.
- Microsoft XML: 6.0 (This should part of and included in the .NET Framework.)

Installing the client

1. The initial installation of the E2 Mfg System on the server will automatically create a shared folder on the server called **E2ShopSystem**. On a client workstation, use Windows Explorer to

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browse to the **E2ShopSystem** share on your server.

2. Double click on the **Shoptech E2 Client Installer.exe** file.
3. On the **Welcome** window, click **Next**.
4. The window titled **Program Shortcuts** will open. You can change the name of the program group that will be created if you like. Check or uncheck the check boxes for the icons that you would like to have created on the Windows Desktop.

Executive Overview – Business overview application (financial and high level overview intended for company executives)

Shop – Data Collection Application (Attendance and Time Tracking ideal for computers in the shop)

Office – Main application (includes estimating, quoting, order entry, purchasing, and accounting data entry modules)

View – View only application

Monitor - a "standalone" program that displays specified information from E2 on a large monitor in a shop environment

5. You can select to perform this installation for All Users or just the user that is currently logged into the computer. Make your selection, and then click **Next**.
6. On the **Final Confirmation** window, click **Next** to begin the client installation.
7. The installation will take a few minutes to complete. Please allow it to do so without interruption.
8. When it is complete, click **Finish**. You are now ready to use E2 Mfg from this workstation.
9. Repeat the above steps on the remaining clients.

****NOTE: On client computers with 64-bit operating systems, both the 64-bit and 32-bit client files and shortcuts will be installed. If you use Quickbooks or ShipRush you will need to use the 32-bit version of E2 Mfg Office. The 32-bit shortcuts can be found in the Shoptech E2 Mfg Client Program Group by clicking the Windows icon in the lower left corner of the Windows Task Bar. Right click on the desired icon. Select More | Open File Location. Right click the icon again and select Send To | Desktop (create shortcut). Use this icon all of the time or just when you need to integrate with Quickbooks or ShipRush.**

Administering E2 Mfg System

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There are a few things you should consider now that you have installed E2 Mfg System; keeping up with software updates and maintaining your database.

Updating E2

During the installation of E2 Mfg, a Windows Scheduled Task was created for you called **E2 Automatic Upgrade Detection**. This scheduled task is set to run each morning. It will access the Internet and check the server at Shoptech for new updates. If there is a new version available, it will be downloaded for you. Users that are members of the **Admin** security group in E2 Mfg will receive a message when E2SS Office is started that an update is available. You will need to apply updates from the server. All E2 related applications will need to be closed or stopped to complete the update, this includes the **E2 Data Collection Service** (see the *Additional Resources* section for more information on setting up Data Collection for E2 Mfg). When you do apply the update, much of the process is automated. Provided that you have closed all of instances where an E2SS application is running including the **E2 Data Collection Service**, the update process will stop the **running E2SS Windows Service** and the **E2SS Windows Service Worker** service, apply the new files, and restart the main services again. If someone tries to start any E2 Mfg related application they will get a message telling them that the program cannot be opened until the update has completed. Once the updated files have been applied and you login to E2SS Office again, you may get a prompt to run updates on the database. If you receive this prompt you must allow the database update(s) to complete before anyone can use E2SS.

****Note: If you use Ethernet based Data Collection terminals, you may need to restart the E2SS Data Collection Service through the Configuration Manager to ensure that all processes are running.**

If any part of the update process does not complete or you receive errors, please contact Shoptech Support at 800-677-9640 option 3 as soon as possible.

You are able to modify the scheduled task to either disable it altogether (not recommended unless you are going to manually check for updates on a regular basis) or change the frequency that it will check for updates. If you are going to modify the task, it can be found by going to **Control Panel | Administrative Tools | Task Scheduler**. Click on the **Task Scheduler Library** at the top of the left pane. In the center pane locate the task called **E2 Automatic Upgrade Detection**. Double click on this task. On the Triggers tab, you can modify the frequency and times of day that the task will run by clicking the **Edit** button. Once you have made your changes you may be prompted to enter the user id and password that were designated for the task during the installation of E2 Mfg.

You can manually check for updates by opening the **E2SS Configuration Manager** on the server. With the Configuration Manager open, select your database from the drop down menu in the upper right corner. Next, select **Update or Modify E2** from tabs on the left. Click the **Update E2** button. If an update is available, you can select **Yes** to apply it or **No** to ignore. The same process detailed above will occur to update the application suite.

Maintaining your database

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There are two aspects of database maintenance that you should consider at this time. First, make sure that you incorporate backing up the E2 Mfg database into your company's disaster recovery plan. We would recommend that you take some time to test your plan as well. Make sure that you know how to restore your database and even more importantly are successfully able to restore the database should there be a disaster.

The second aspect concerning your database relates to the core functionality of a transactional data storage system like SQL Server. A SQL Server database typically consists of 2 files; the data file (*.MDF) and the transaction log file (*.LDF). If proper maintenance/backups are not performed, the transaction log could potentially grow until it has used up the available free space on your disk drive. If you allow this to happen it could cause serious problems with your server.

Please work with the person responsible for your computers/network to make sure at the very least your database is getting backed up regularly.

By default, the E2 Mfg database was probably created using the Full Recovery Model. This means that SQL Server is expecting you to not only make Full backups of the database, but also Transaction Log backups. By using the Full Recovery Model and making regular transaction log backups (multiple ones through the course of the day are possible) you would be able to recover your database to a point in time just prior to the failure and ensure minimal data loss. This will also help to trim the transaction log and keep it from growing too large.

You can leave your database set at the **Full Recovery Model** to allow for the greatest amount of data to be recovered. Please be aware that with this setting you **MUST** make regular Full AND Transaction Log backups.

Alternatively, you can set the E2 Mfg database to use the **Simple Recovery Model**. With the Simple Recovery Model SQL Server expects you to just make Full backups. In this case, the transaction log will be truncated by SQL Server when certain conditions are met and when a Full Backup is completed.

Regardless of the Recovery Model you choose, it is imperative that you configure and verify your backup strategy for your E2 Mfg database(s). This process can be automated using the Maintenance Plan Wizard provided in SQL Server. You should work with the person responsible for your Network/Computers to configure these backups. If you have questions, please contact Shoptech Support at (800) 677-9640 option 3, option 2 for the Hardware team.

SQL Server Configuration

Memory

By default Microsoft SQL Server, is configured for use on servers that only run SQL Server and nothing else. Therefore memory usage is set to use all of the memory available on the server. This may cause performance problems if your server is used for other things like your Domain Controller, Exchange, or other resource intensive services. Unless SQL Server is the only thing running on this

server, you should open the SQL Server Management Studio and login. Go to the Properties of the server and select the Memory page. The value in the Maximum server Memory field is probably something like 2147483647 (in MB). You should reserve at least 1 GB of the available memory for the Operating System. You should adjust this Maximum memory value down to take into consideration the 1 GB reservation for the OS and any additional reservations you feel are necessary for other applications/services that may run on this server. You could reasonably set the value to 4 GB (4000 MB), but keep in mind that if you find that your SQL Server is not performing well that this amount could be increased.

How Do You Know If You Need More Memory?

The simplest measure is to look at the SQL Server Buffer Manager: Cache Hit Ratio counter in System Monitor (a tool that comes with Windows and is already installed on your server). Log a typical 24-hour period so you get the big picture. Average cache hit ratio should be in the high nineties. 99% is OK, 95% is not. The counter Memory:Pages\Sec is also important. It is normal for this reading to spike very high for brief periods, but it should average 20 or below over a typical 24 hour period.

TempDB

Another item that may not be set appropriately by default is the number of temporary databases available for SQL Server. As SQL Server is processing data, it uses the Temporary database (tempdb) as a workspace. It is recommended that you increase the number of files that make up the tempdb to match the number of processing cores on your server. If you are using SQL Server 2017 or higher, the TempDB will already be configured this way. Please click this link for more information about making this change:

http://client.shoptech.com/faq/hardware/sql_server/VersionNon-SpecificInfo/ReconfiguringTempDB.pdf

Additional Resources

Installing related 3rd Party Applications

http://client.shoptech.com/faq/Enterprise/Hardware/Install/How_Do_I_Install_3rd_Party.pdf

Installation and Configuration of E2SS Data Collection

http://client.shoptech.com/faq/Enterprise/Hardware/Information/How_Do_I_Set_Up_Data_Collection.pdf