

SoftMax Pro Data Acquisition and Analysis Software

GxP Edition

SoftMax Pro Software - GxP Edition version 7.1.2, GxP Admin Portal Software version 3.0.1,
GxP Admin Software version 3.1.2

Installation Guide for the Multi Computer Setup

SoftMax Pro GxP Multi Computer Installation Guide

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The SoftMax® Pro GxP Software Suite controls Molecular Devices® spectrophotometers and absorbance, luminescence, and fluorescence microplate readers and detection platforms.

Use this document to install SoftMax Pro GxP Software version 7.1.2, GxP Admin Portal Software version 3.0.1, and GxP Admin Software version 3.1.2. Also use this document to update from SoftMax Pro GxP Software version 7.1.1 and GxP Admin Software version 3.x to version 7.1.2 and version 3.1.2 respectively (the GxP Admin Portal Software version 3.0.1 does not change for this update).



Note: If you have the SoftMax Pro GxP Software version 7.0.3 or lower and the GxP Admin Software version 2.x, the update to SoftMax Pro GxP Software version 7.1.2 and GxP Admin Software version 3.1.2 requires time and training to implement. Please contact Technical Support for assistance.

Scalability

The SoftMax Pro GxP Software Suite scales with the size of your laboratory environment. Depending on the size of your implementation, you can install the interdependent SoftMax Pro GxP Software Suite components on multiple networked computers. For the smallest of implementations, it is possible to install the components on a single computer. You should consult with your Molecular Devices representative and your network administrators to plan and scale your implementation according to your requirements.

SoftMax Pro GxP Software Suite components:

- **SoftMax Pro GxP Software:** The SoftMax Pro GxP Software (client) controls the microplate reader for data acquisition and statistical data analysis. These computers must have access to the dedicated server on which you install the GxP Admin Software.
- **GxP Admin Portal Software:** The GxP Admin Portal Software is the user interface that you use to interact with the GxP Admin Software. Install the GxP Admin Portal Software on a computer or computers that have access to the dedicated server on which you install the GxP Admin Software.
- **GxP Admin Software:** The GxP Admin Software (server) is the database and security back-end application that you install on a dedicated, centrally located server with a static IP address. This server must be accessible to all computers that run the GxP Admin Portal Software and the SoftMax Pro GxP Software.



Note: The GxP Admin Software version 3.x has no user interface. Open the Windows Services dialog and double-click the GxP_AU_Data service and the GxP_AU_Web service. For versions 3.1.x and higher, the version number displays in the Description field.



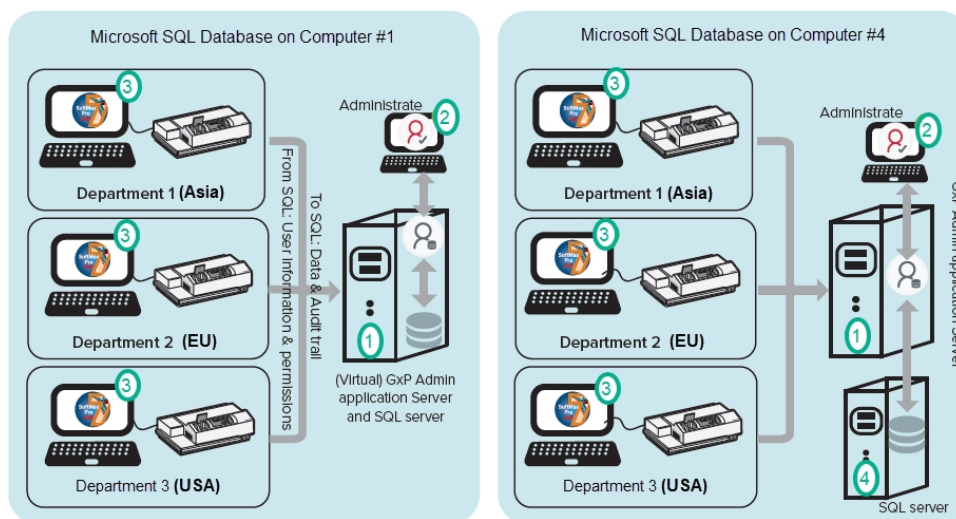
Note: If the SoftMax Pro GxP Software loses connection with the GxP Admin Software database for more than 30 days, protocol data will not be saved to the database. You should resolve any database connection issue within 30 days.

There are two methods to deploy the SoftMax Pro GxP Software Suite:

- Multi Computer Setup - This setup supports multiple microplate readers connected to multiple computers and Windows Credential login mode. All computers in the multi computer setup are networked to one central secure Microsoft SQL database that you install separately.
- Single Computer Setup - This setup means that the computer connected to the microplate reader is also the same computer that houses all components of the SoftMax Pro GxP Software Suite. This is the the only computer that runs the SoftMax Pro GxP Software and the only computer that acquires data from the microplate reader. The SoftMax Pro 7.1.2 GxP Single Computer Setup Installation Wizard installs a Microsoft SQL Express database on the computer. The installed database can store up to 10 GB of data with the related System Audit Trail records.

Important Software Installation Considerations

Due to the complexities and variables associated with the installation of a multi-component, cross-network software application, the multi computer setup installation is script-based. The installation scripts are packaged within a wizard whose sole purpose is to unpack the installation scripts to the location of your choice. Although the scripts are not extremely complex, you must have knowledge of Microsoft PowerShell and your network topology to use the multi computer setup installation. Use the PowerShell `Get-Help` commands to access the help documentation within each script.



Multi Computer Setup Installation Configuration Options

Setup	Software Application
1	GxP Admin Software (Can also contain the Microsoft SQL database) Installing GxP Admin Software on page 21
2	GxP Admin Portal Software Custom Installing GxP Admin Portal Software on page 64
3	SoftMax Pro GxP Software Custom Installing SoftMax Pro GxP Software on page 68
4	Microsoft SQL Server Standard or SQL Enterprise database on computer #4

Computer System Requirements Multi Computer Setup

Install each component in the multi computer setup on computers that have the following system requirements.



Note: If you intend to use Active Directory Single Sign On, your network infrastructure must support Active Directory.

Server Computer for GxP Admin Software

Item	Required
Operating system	Windows 10 Enterprise, Windows 10 Pro, Windows Server 2016, or Windows Server 2019 (all 64-bit)
Processor	Intel Core i5 with 8 or more cores or equivalent
Memory	16 GB RAM
Hard drive	50 GB of available space, or more
Database	Microsoft SQL Express or Microsoft SQL Server (either 2016 or 2017)
Additional software	Windows PowerShell 5.1 must be 64-bit. Must allow script execution with the execution policy set to at least <code>Remote Signed</code>
Domain Name Service (DNS)	Configured DNS must be active for all computers participating in the multi computer setup

SoftMax Pro GxP Software (Client) and GxP Admin Portal Software Computer

Item	Minimum	Standard Performance
Operating system	Windows 10 Enterprise, Windows 10 Pro, Windows Server 2016, or Windows Server 2019 (all 64-bit)	
Processor	Intel Core i5 with 4 cores or equivalent	Intel Core i5 with 8 or more cores or equivalent
Memory	8 GB RAM	16 GB RAM
Hard drive	50 GB of available space, or more	
Additional software	Windows PowerShell 5.1 must be 64-bit. Must allow script execution with the execution policy set to at least <code>Remote Signed</code>	

Ports

For the typical multi computer setup the network connections between the computers require that all firewalls and routers be configured to allow data transfer using ports 8210, 8211, 1433, and 1434.

Backup

The multi computer setup assumes that your company network has standard backup and recovery procedures in place for the SQL database.

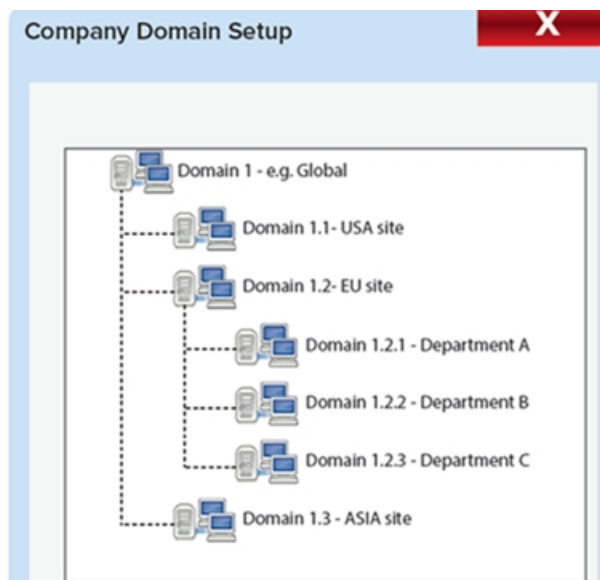
Domain Structure Considerations For Active Directory Users

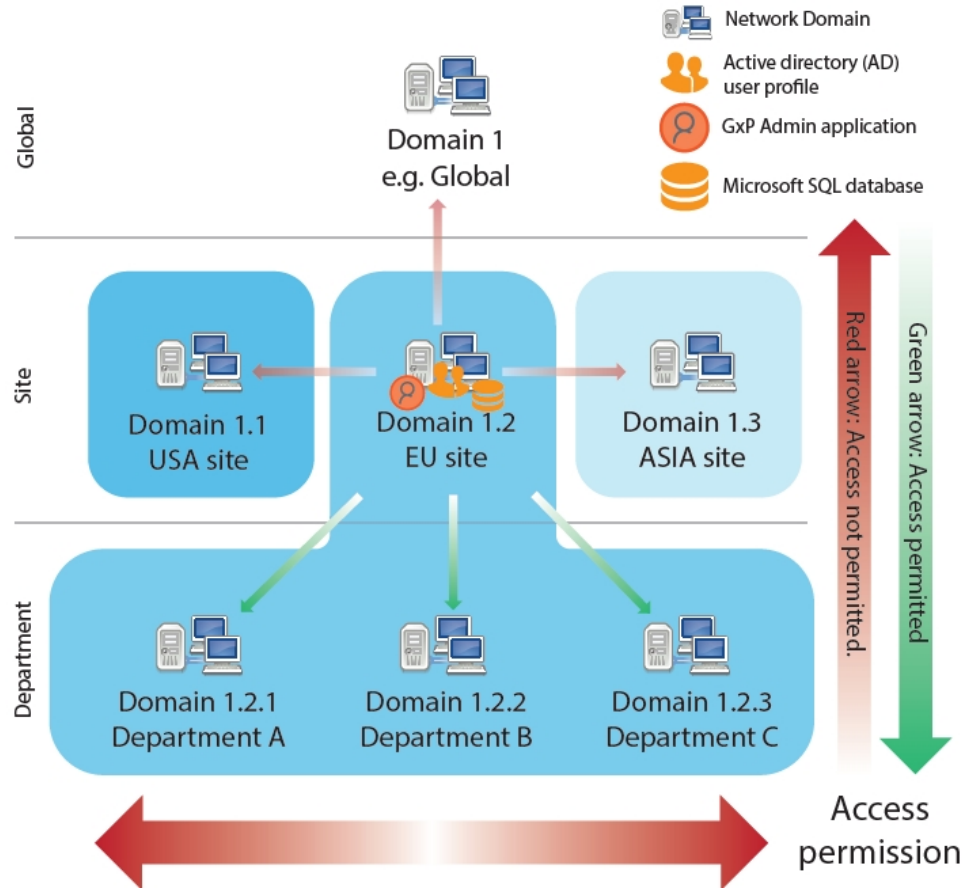
The SoftMax Pro GxP Software Suite multi computer setup supports the creation of both Custom Credentials users and the integration with Windows Credentials, Active Directory (LDAP) users.

- **Windows Credentials:** For users you create with the Windows Credentials login mode, password management is maintained through the Active Directory. Windows Credentials login mode users cannot change their password in the GxP Admin Portal Software or the SoftMax Pro GxP Software. The password maintenance settings in the GxP Admin Portal Software do not affect Windows Credentials login mode users. Windows Credential login mode users with the SoftMax Pro Access permission must have a license and must be a member of at least one Project. Their activity within the SoftMax Pro GxP Software is restricted by their Role permissions.
- **Custom Credentials:** For users you create with the Custom Credentials login mode, the software creates a randomly generated alphanumeric string of characters to be their password. This password grants users with the appropriate Access permissions access to the GxP Admin Portal Software and the SoftMax Pro GxP Software. Both software applications require Custom Credentials login mode users to change their password upon initial login. Both software applications allow Custom Credentials login mode users to change their password as often as they want. The GxP Admin Portal Software has settings to manage password strength and password aging to require Custom Credentials login mode users to change their password at the interval you specify.

If you want to create users that use your company's Windows Active Directory login credentials, determine the best location and under which domain to install GxP Admin Software so that the GxP Admin Software can access your company's Active Directory database.

The following shows an example how a domain tree looks in Windows.





Consider the Active Directory system as a permission pyramid. Access to domains above or sideways is not possible.

- Example 1: If a user or application is located in the Department A domain, then this user cannot log in at a computer that is located in the Department B domain.
- Example 2: If a user should be able to access Department A/B/C then the user's Active Directory user profile and the GxP Admin Software need to be located at the EU site level (Domain 1.2).

Required Computer Settings



Note: Disable your anti-virus program before you install the software. Anti-virus programs can interfere with the installation process. If your computer hibernates or turns off during data acquisition, the transfer of data from the instrument to the software can be interrupted.

To prevent data loss turn off all sleep and hibernation settings for the hard disk, the CPU, and the USB ports.

To define computer settings in the Windows Control Panel:

1. Open **Control Panel**.
2. Click **Hardware and Sound**.
3. Under **Power Options**, click **Change When the Computer Sleeps**.
4. Click **Change advanced power settings**.
5. In the Power Options dialog, set **Hard disk > Turn Off Hard Disk After** to **Never**.
6. Set **Sleep > Sleep After** to **Never**.
7. Set **Sleep > Hibernate After** to **Never**.
8. Set **USB Settings > USB Selective Suspend Setting** to **Disabled**.
9. Click **OK**.

Decimal Symbol Must be a Period

For the SoftMax Pro Software to parse or execute calculations, the regional options for the computer must use the period symbol (“.”) for the decimal symbol. This can be an issue if the Region and Language setting for the computer is something other than English.

To set custom regional settings, go to **Control Panel > Clock and Region**.

Troubleshooting

For the multi computer setup, when you install the GxP Admin Software on the same computer as the Microsoft SQL database, if you reboot the computer and you cannot log in to the GxP Admin Portal Software, you should check the GxP_AU_Data service and the GxP_AU_Web service to confirm that both are running. To correct this you can set up dependencies or delays to ensure that the database is up and running before the services time out.



Note: If the SoftMax Pro GxP Software loses connection with the GxP Admin Software database for more than 30 days, protocol data will not be saved to the database. You should resolve any database connection issue within 30 days.



Note: Communication between all of the components in the SoftMax Pro GxP Software Suite is encrypted using HTTPS. Do not change the communication to use HTTP as this is not a secure communication method.

Functionality Not Included in the Software

The SoftMax Pro GxP Software Suite currently does not include the following functionality:

- You cannot connect the computers that run the SoftMax Pro GxP Software to a server that runs the GxP Admin Software with a different database. For example, to accommodate Test, Staging, and Production environments.
- You cannot install multiple instances of the GxP Admin Software to use a single database. There is a one-to-one relationship between each GxP Admin Software implementation and its database.
- You cannot connect the GxP Admin Software to different SQL databases.
- The software cannot search Windows Active Directory sub-domains.
- The software does not support security certificates which specify SANs (Subject Alternative Names) using IP addresses.
- You cannot import an existing certificate.



Chapter 2: Updating from 7.1.1 to 7.1.2

2

If you are running the SoftMax Pro GxP Software version 7.1.1, GxP Admin Portal Software version 3.0.1, and GxP Admin Software version 3.x, follow the instructions in this section to update the SoftMax Pro GxP Software version to 7.1.2 and GxP Admin Software version 3.1.2. The GxP Admin Portal Software version remains 3.0.1.

This update does not affect the GxP Admin Portal Software. To update the SoftMax Pro GxP Software Suite components in the multi computer setup, do the following on the server running the GxP Admin Software and on every computer running the SoftMax Pro GxP Software.



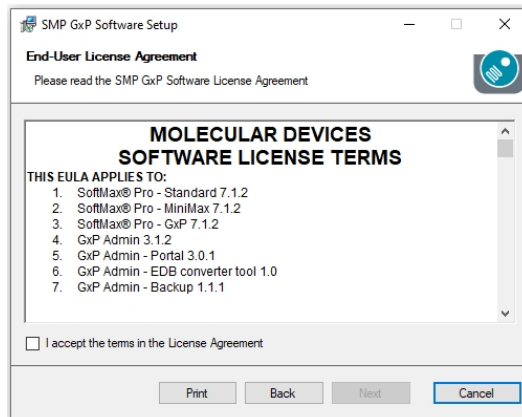
Note: The SoftMax Pro GxP Software Suite update requires a maintenance license. See [Getting Started Licensing the SoftMax Pro GxP Software on page 43](#)

1. Locate and double-click the **SMP GxP Update.msi** file to start the SoftMax Pro GxP Software Setup wizard.
2. On the Welcome page:



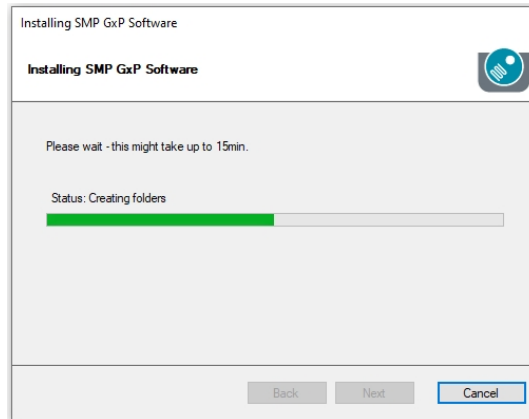
Click **Next**

3. On the End User License Agreement page:



- a. Select the **I accept the terms in the License Agreement** check box.
- b. Click **Next**.

4. When the *Do you want to allow this app to make changes to your device?* message displays, click **Yes**.
5. On the Installing SMP GxP Software page:



Wait until the installation completes.

6. On the Completed the SMP GxP Software Setup Wizard page:



- a. Click **Open Report** to view the SoftMax Pro GxP Installation Qualification Report and then click **Finish**.
 - b. Click **Finish** to finish the installation.
7. Repeat this for every computer running the components of the SoftMax Pro GxP Software Suite.

Qualification Report

The SoftMax Pro 7.1.2 GxP Update Installation Wizard creates a qualification report for your records in the following location:

C:\Users\Public\Documents\Molecular Devices\GxP Admin\Installation Qualification\

This report lists the system information, date, user, and a file summary that lists all files that were installed with the word "Yes" if it exists as intended.

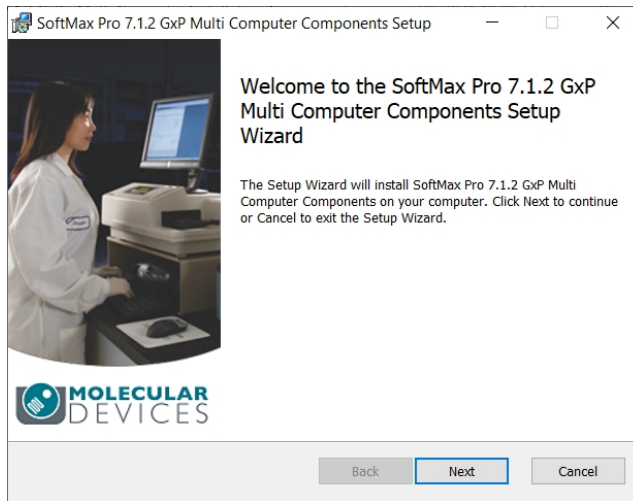
Chapter 3: New Installation - Unpacking Installation Files

3

If this is a new installation of the SoftMax Pro GxP Software Suite, all installation files are packaged in the SoftMax Pro 7.1.2 GxP - Multi Computer Installation Components.msi file.

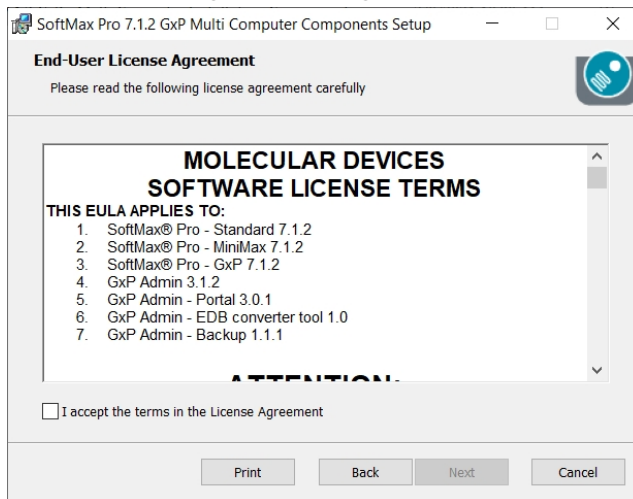
To extract the installation files for a new multi computer setup installation:

1. Insert the SoftMax Pro GxP Software Suite installation DVD into the computer DVD drive or use alternative media.
2. Locate and double-click the **SoftMax Pro 7.1.2 GxP - Multi Computer Installation Components.msi** file to start the SoftMax Pro 7.1.2 GxP Multi Computer Components Setup wizard.
3. On the Welcome page:



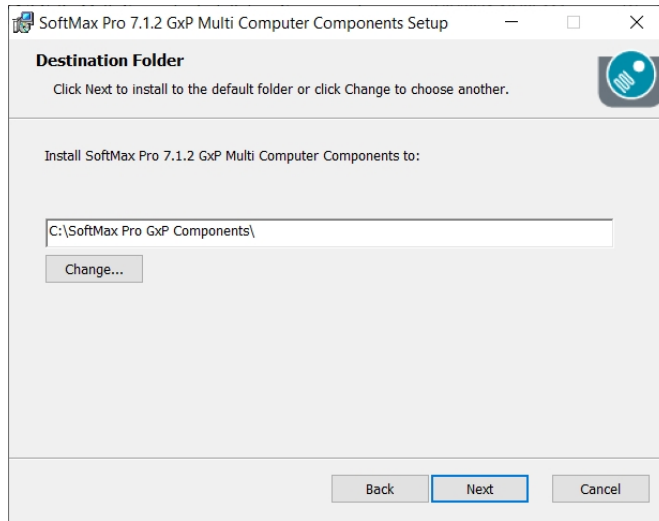
Click **Next**.

4. On the License Agreement page:



- a. Select the **I Accept the Terms of the License Agreement** check box.
- b. Click **Next**.

5. On the Destination Folder page:



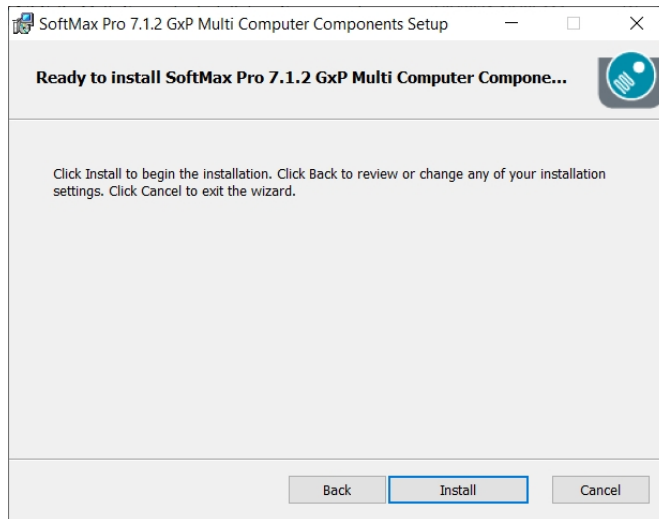
- a. Enter the file path to the location where you want to place the component installation files. This can be a USB drive or a network location that has access to all the computers onto which you want to install the SoftMax Pro GxP Software Suite components.



Note: The default location is the root of the C drive and all examples in the default installation steps use C:\...

- b. Click **Next**.

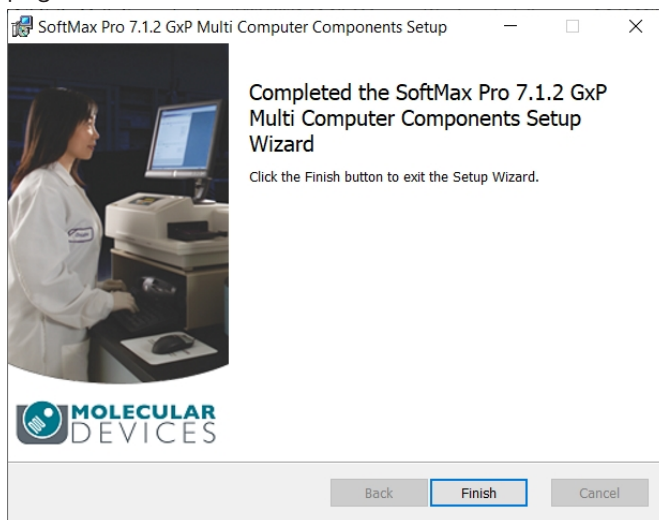
6. On the Ready to Install SoftMax Pro 7.1.2 GxP Multi Computer Components page:



Click **Install**.

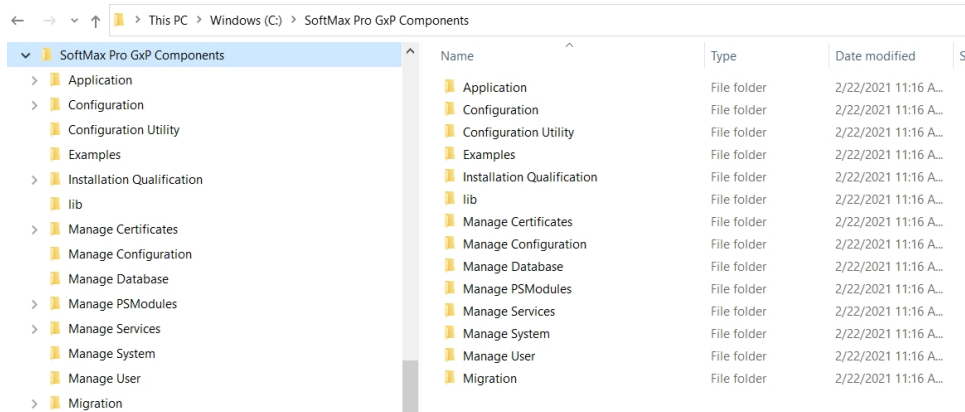
- 7. When the *Do you want to allow this app to make changes to your device?* message displays, click **Yes**. The installation wizard unpacks the installation scripts to the location you specify.

8. On the Completed the SoftMax Pro 7.1.2 GxP Multi Computer Components Setup Wizard page:



Click **Finish**.

9. Use Windows Explorer to navigate to the location of the installation script files.



Note: Do not change the names of the folders and do not change the names of the installation files.



The installation wizard unpacks the installation files to the SoftMax Pro GxP System Installation Scripts folder in the destination you specify. The relevant files are the Script files that have the .ps1 file extension. Use the PowerShell `Get-Help` commands to access the help documentation in each script. The following is the file structure that the installation wizard creates after you rename the SoftMax Pro GxP Components folder:

SoftMax Pro GxP Components

Application

Configuration

Configuration Utility

Examples

- CleanupInstallation.ps1
- ClientInstall.ps1
- Configuration.ps1
- DeleteServices.ps1
- InstallationQualification.ps1
- PortalInstall.ps1
- ServerInstall.ps1
- Test-DnsResolve.ps1

Installation Qualification

- Installation-Qualification.ps1

lib

- utils.ps1

Manage Certificates

- Manage-Certificates.ps1

Manage Configuration

- Manage-Configuration.ps1

Manage Database

- Manage-Database.ps1

Manage PSModules

- Manage-PSModules.ps1

Manage Services

- Manage-Services.ps1

Manage System

- Manage-System.ps1

Manage User

- Manage-User.ps1

Migration

- Migrate-gxp-data.ps1

Script Types

The installation package includes the following types of script files:

- Sample Deployment Script Files
- Installation Foundation Script Files

Sample Deployment Script Files

The sample deployment script files provide the most efficient method to install the SoftMax Pro GxP Software Suite and are an example of how a network administrator could customize and combine the installation foundation script files to install the software. The sample deployment script files are in the Examples folder.

Installation Foundation Script Files

The installation foundation script files are digitally signed and are the foundation for the sample deployment script files. Although you can use the installation foundation script files to install the SoftMax Pro GxP Software Suite, they are not the most efficient way to install the software. These scripts require entry of many redundant parameters which increases the potential for errors. When you edit the installation foundation script files they are no longer digitally signed but they will still run and can perform their intended purpose.

Common Optional Parameters

Most installation scripts have the following optional parameters in common:

Common Optional Parameters

Parameter	Description
IP_OutputFile	The file that is overwritten with the exit code or result of this program.
IP_LogFile	The file that is overwritten with all terminal output. Required for a silent run of the program with a processing log for later reference in IQ / installation documentation. All output will still display in the terminal if silent mode is not set
IP_DetailedLog	Adds detailed information of each command and the corresponding response to the log.
IP_Silent	Specifies if there should be any terminal output. If the parameter is set, all visible output is suppressed.

Script Modes

Some installation scripts have a Mode parameter that can support the following variables:

- **C - Check:** For scripts that support the check Mode, you should use the C (Check) variable to gather the additional prerequisites and to get an understanding of what the script is to accomplish without actually running the script.
- **I - Install:** You will run all scripts (except Manage-Configuration.ps1) with the Mode parameter set to I (Install) to achieve their intended purpose during the installation to create a new result.
- **E - Edit:** You will run the Manage-Configuration.ps1 script with the Mode parameter set to E (Edit) because this script edits the configuration config.json file that the Manage-Services.ps1 script creates.
- **D - Delete:** Some scripts allow you to set the Mode parameter to D (Delete) to delete an erroneous entry from a previous run of the script.

The most efficient method to install the GxP Admin Software on the server computer is to run the `ServerInstall.ps1` sample deployment script. If you want to customize your installation, see [Custom Installing GxP Admin Software on page 56](#).

Prerequisite: Know the location of the SQL database and the password for the "sa" user.

Prerequisites: PowerShell version 5.1, 64-bit exists and you must be able to execute scripts with the execution policy set to at least `Remote Signed` on the computer.

Parameters: `ServerInstall.ps1`

Parameter	Description
Mode	Run in Install mode.
InstallDb	Turn On to create a new SQL Express database Turn Off to use an existing database.
DoNotCreateUser	Turn On to use an existing local domain user. Turn Off to create a new service user.
DetailedLog	Turn On to create detailed log messages. Turn Off to not create detailed log messages.

Passwords

You will be prompted to enter the following passwords:

- `PwdSa` - The password of the SQL server administrator user you entered when you installed the SQL database. This user has permission to create and edit database objects.
- `PwdGxp` - The password of your administrator user of the SoftMax Pro GxP Software Suite. Must start with an alpha character and be at least six alphanumeric characters. Cannot contain special characters or spaces. The software forces you to change this upon first login.

The scripts also use the `PwdGxp` password as the password for the following:

- `IP_WSPassword` - The password of the SQL database user for the `WebService` table (WebName `IP_WSUserName`).
- `IP_DSPassword` - The password of the SQL database user for the `DataService` table (DataName `IP_DSUserName`).
- `IP_PassWord` - The password for the user who manages all services on the server.
- `IP_CAPassword` - The root certificate password.
- `IP_SVPASSWORD` - The server certificate password.

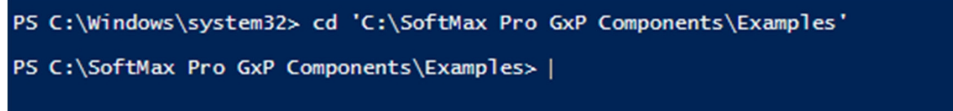
To install the GxP Admin Software on the server computer:

1. Open PowerShell ISE as Administrator and execution policy set to at least Remote Signed on the computer.



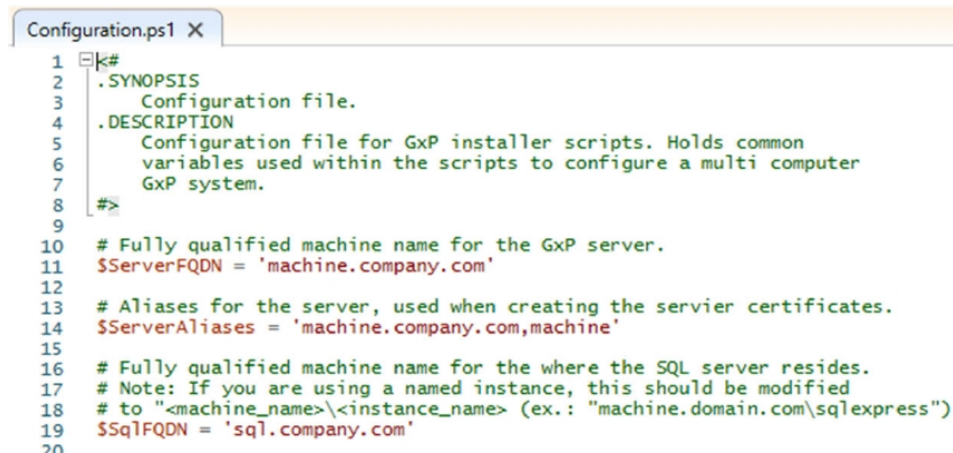
```
Administrator: Windows PowerShell ISE
File Edit View Tools Debug Add-ons Help
PS C:\Windows\system32> set-executionpolicy bypass
PS C:\Windows\system32> |
```

2. Navigate to the **Examples** folder.



```
PS C:\Windows\system32> cd 'C:\SoftMax Pro GxP Components\Examples'
PS C:\SoftMax Pro GxP Components\Examples> |
```

3. Open the Configuration.ps1 script.



```
Configuration.ps1 X
1  #
2  .SYNOPSIS
3    Configuration file.
4  .DESCRIPTION
5    Configuration file for GxP installer scripts. Holds common
6    variables used within the scripts to configure a multi computer
7    GxP system.
8  #>
9
10 # Fully qualified machine name for the GxP server.
11 $ServerFQDN = 'machine.company.com'
12
13 # Aliases for the server, used when creating the server certificates.
14 $ServerAliases = 'machine.company.com,machine'
15
16 # Fully qualified machine name for the where the SQL server resides.
17 # Note: If you are using a named instance, this should be modified
18 # to "<machine_name>\<instance_name>" (ex.: "machine.domain.com\sqlexpress")
19 $SqlFQDN = 'sql.company.com'
20
```

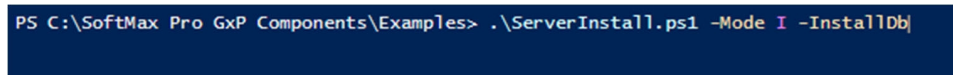
4. In the `$ServerFQDN = 'machine.company.com'` line, replace **'machine.company.com'** with the fully qualified machine name for the server onto which you install the GxP Admin Software used to create the certificates.
5. In the `$ServerAliases = 'machine.company.com,machine'` line, replace **'machine.company.com,machine'** with the aliases for the server used in the creation of server certificates.
6. In the `$SqlFQDN = 'sql.company.com'` line, replace **'sql.company.com'** with the fully qualified machine name of the computer that contains the SQL database.



Note: If you use a named instance, change this to "`<machine_name>\<instance_name>`"

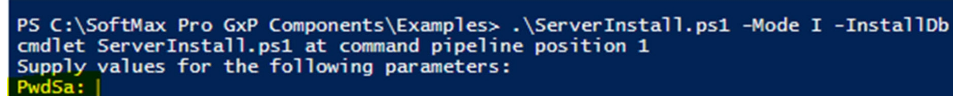
For example, "machine.domain.com\sqlexpress"

7. In the Examples folder, enter the **ServerInstall** command and press **Enter**.



```
PS C:\SoftMax Pro GxP Components\Examples> .\ServerInstall.ps1 -Mode I -InstallDb
```

8. At the **PwdSa** prompt, enter the "sa" password that you defined when you installed the SQL database connection and press **Enter**.



```
PS C:\SoftMax Pro GxP Components\Examples> .\ServerInstall.ps1 -Mode I -InstallDb
cmdlet ServerInstall.ps1 at command pipeline position 1
Supply values for the following parameters:
PwdSa: |
```

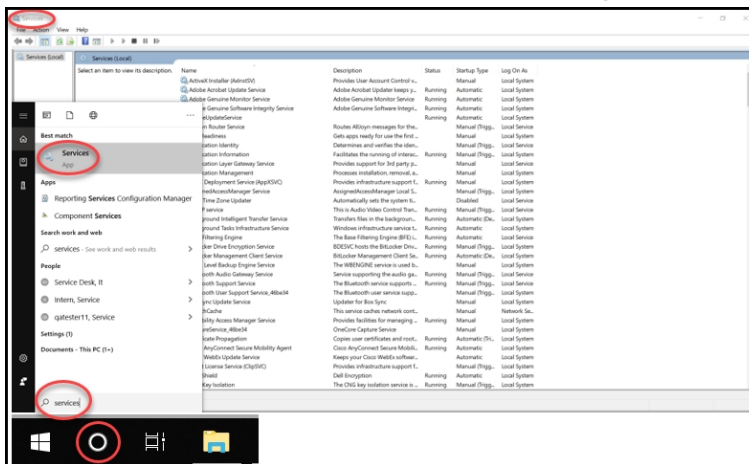
- At the **PwdGxp** prompt, enter the password for the first user of the SoftMax Pro GxP Software Suite.



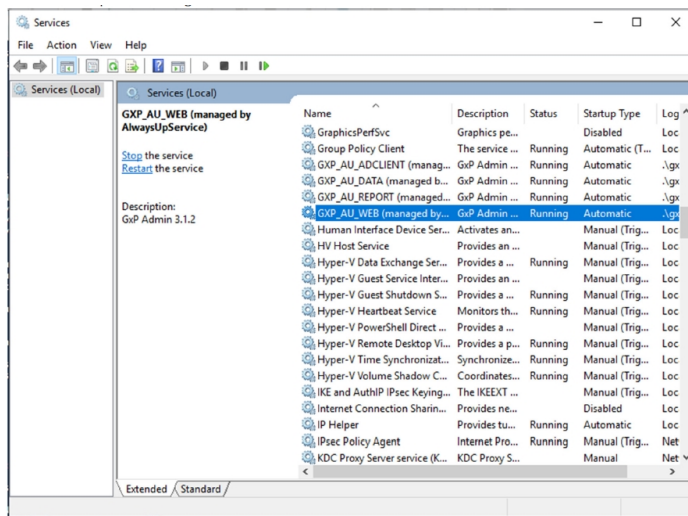
CAUTION! Remember the username (default = **gxpadmin**) and the password you enter here. Password must start with an alpha character and be at least six alphanumeric characters. Cannot contain special characters or spaces. This is your SoftMax Pro GxP Software Suite administrator user. If you forget this you must reinstall the software.

You will be forced to enter a strong password the first time you log in and you can change the username in the software later.

- Press **Enter**.
- After the script completes, open the Services dialog.



- Confirm that there are four services that start with **GXP** and that they are running.



- Use Windows Explorer to copy the **SoftMax Pro GxP Components** folder and the **Certificates** folder from the hard drive to a USB drive or to a share that is accessible from the computers onto which you will install the GxP Admin Portal Software and the SoftMax Pro GxP Software.

Chapter 6: Installing GxP Admin Portal Software



The most efficient method to install the GxP Admin Portal Software on computers is to run the `PortalInstall.ps1` sample deployment script. If you want to customize your installation, see [Custom Installing GxP Admin Portal Software on page 64](#).

Prerequisites: Complete the installation of the GxP Admin Software. PowerShell version 5.1, 64-bit exists and you must be able to execute scripts with the execution policy set to at least `Remote Signed` on the computer.

Parameters: `PortalInstall.ps1`

Parameter	Description
Mode	Run in Install mode.
InstallOnServer	Turn On to install the GxP Admin Portal Software on the same computer as the GxP Admin Software. Turn Off to install the GxP Admin Portal Software on a separate computer.
PathToPortalCertificate	The path to the certificate folder on the USB drive. The script copies the certificates to the computer certificate store.

To install the GxP Admin Portal Software:

1. Use Windows Explorer to copy the **Certificates** folder and the **SoftMax Pro GxP Components** folder plus all files to the root C: drive on the computer.
2. Open PowerShell ISE as Administrator and execution policy set to at least `Remote Signed` on the computer.

```
Administrator: Windows PowerShell ISE
PS C:\Windows\system32> set-executionpolicy bypass
PS C:\Windows\system32> |
```

3. Navigate to the **Examples** folder.

```
PS C:\Windows\system32> cd 'C:\SoftMax Pro GxP Components\Examples'
PS C:\SoftMax Pro GxP Components\Examples> |
```

4. Enter the **PortalInstall** command and press **Enter**.

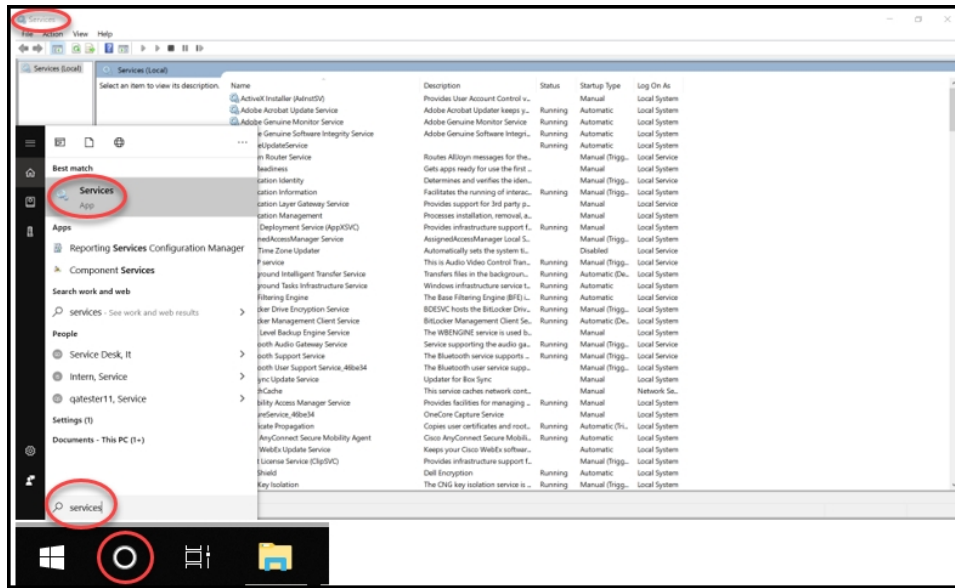
```
PS C:\SoftMax Pro GxP Components\Examples> .\PortalInstall.ps1 -mode I -PathToPortalCertificates C:\Users\Dev.Software\Documents\Portal
```

5. At the **PwdGxp** prompt, enter the same password for the first user of the SoftMax Pro GxP Software Suite that you entered when you installed the GxP Admin Software.

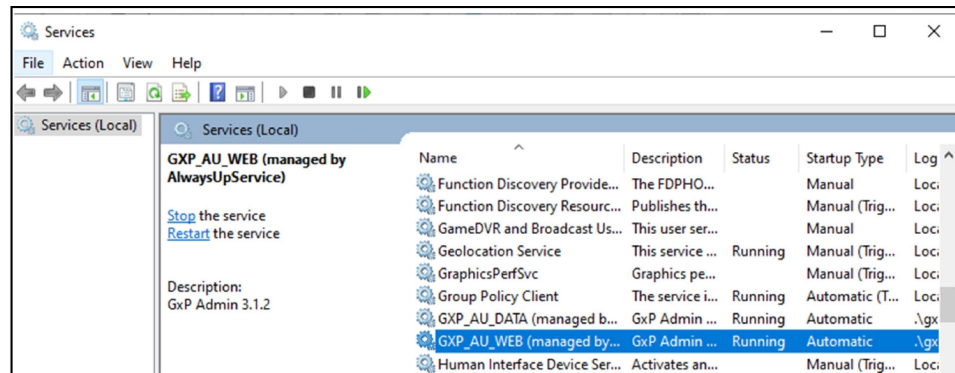
```
PS C:\WINDOWS\system32> cd 'C:\SoftMax Pro GxP Components\Examples'
PS C:\SoftMax Pro GxP Components\Examples> .\ PortalInstall.ps1 -Mode I -PathTo Portal Certificates C:\Users\Dev.Software\Documents\ Portal
cmdlet PortalInstall.ps1 at command pipeline position 1
Supply values for the following parameters:
PwdGxp: GxP!Password
```

6. Press **Enter**.

7. After the script completes, open the Services dialog.



8. Confirm that there are two services that start with GXP and that they are running.



Chapter 7: Installing SoftMax Pro GxP Software

7

The most efficient method to install the SoftMax Pro GxP Software on computers is to run the ClientInstall.ps1 sample deployment script. If you want to customize your installation, see [Custom Installing SoftMax Pro GxP Software on page 68](#).


Prerequisites: Complete the installation of the GxP Admin Software and the GxP Admin Portal Software. PowerShell version 5.1, 64-bit exists and you must be able to execute scripts with the execution policy set to at least `Remote Signed` on the computer.

Parameters: ClientInstall.ps1

Parameter	Description
Mode	Run in Install mode.
InstallOnServer	Turn On to install the GxP Admin Portal Software on the same computer as the GxP Admin Software. Turn Off to install the GxP Admin Portal Software on a separate computer.
PathToClientCertificate	The path to the certificate folder on the USB drive. The script copies the certificates to the computer certificate store.

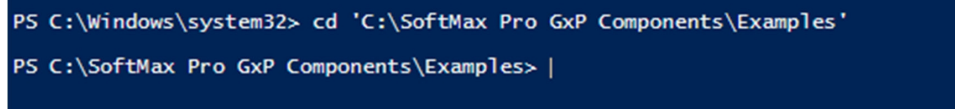
To install the GxP Admin Portal Software:

1. Use Windows Explorer to copy the **Certificates** folder and the **SoftMax Pro GxP Components** folder plus all files to the root C: drive on the computer.
2. Open PowerShell ISE as Administrator and execution policy set to at least `Remote Signed` on the computer.



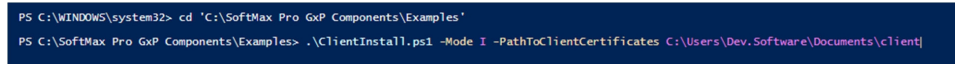
```
Administrator: Windows PowerShell ISE
File Edit View Tools Debug Add-ons Help
PS C:\Windows\system32> set-executionpolicy bypass
PS C:\Windows\system32> |
```

3. Navigate to the **Examples** folder.



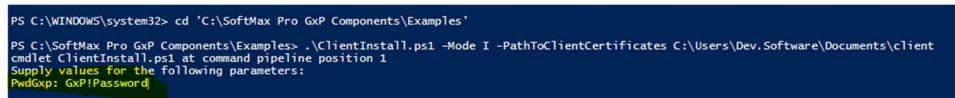
```
PS C:\Windows\system32> cd 'C:\SoftMax Pro GxP Components\Examples'
PS C:\SoftMax Pro GxP Components\Examples> |
```

4. Enter the **ClientInstall** command and press **Enter**.



```
PS C:\WINDOWS\system32> cd 'C:\SoftMax Pro GxP Components\Examples'
PS C:\SoftMax Pro GxP Components\Examples> .\ClientInstall.ps1 -Mode I -PathToClientCertificates C:\Users\Dev.Software\Documents\client
```

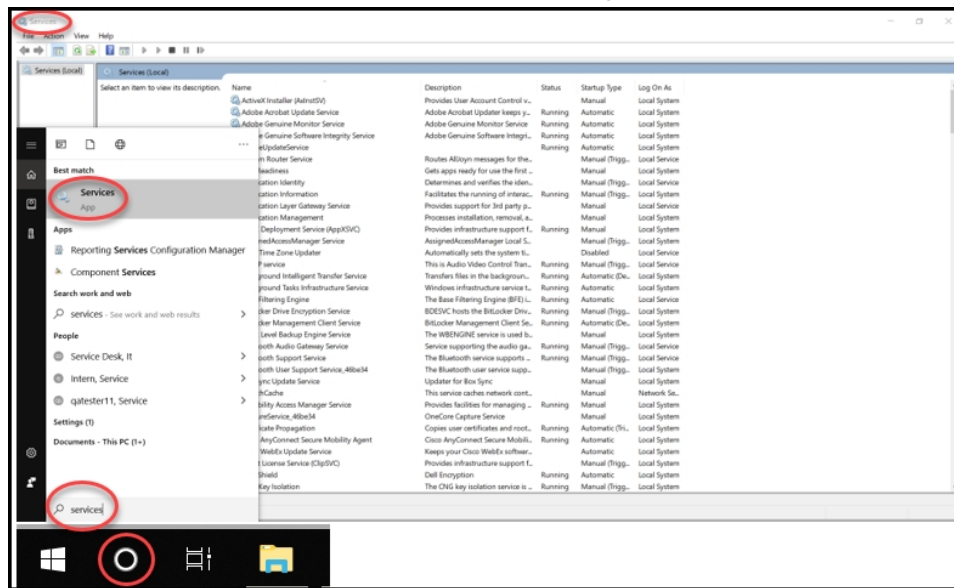
5. At the **PwdGxp** prompt, enter the same password for the first user of the SoftMax Pro GxP Software Suite that you entered when you installed the GxP Admin Software.



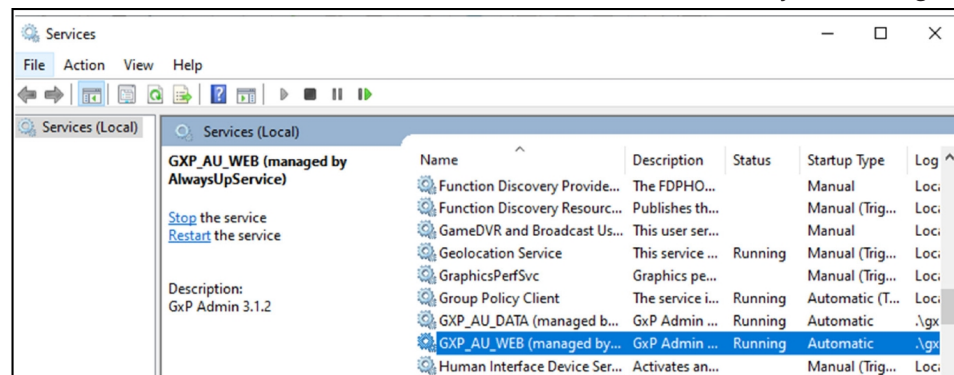
```
PS C:\WINDOWS\system32> cd 'C:\SoftMax Pro GxP Components\Examples'
PS C:\SoftMax Pro GxP Components\Examples> .\ClientInstall.ps1 -Mode I -PathToClientCertificates C:\Users\Dev.Software\Documents\client
cmdlet ClientInstall.ps1 at command pipeline position 1
Supply values for the following parameters:
PwdGxp: GxP!Password
```

6. Press **Enter**.

7. After the script completes, open the Services dialog.



8. Confirm that there are two services that start with GXP and that they are running.




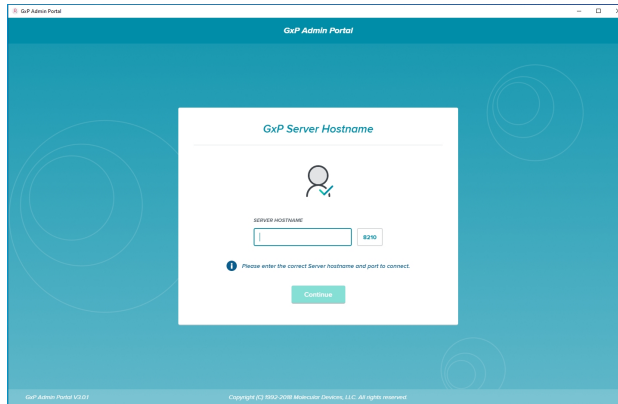
Chapter 8: Getting Started - GxP Admin Portal Software



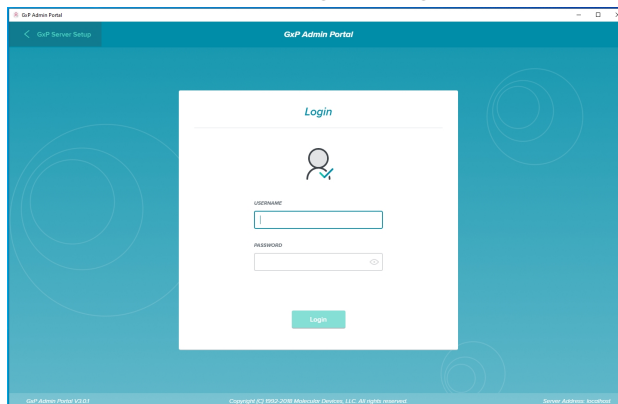
The GxP Admin Portal Software is the user interface for the GxP Admin Software. Before you can use the SoftMax Pro GxP Software, you use the GxP Admin Portal Software to add the licenses for the SoftMax Pro users, create the users, manage Roles, and create Projects.

To get started in the GxP Admin Portal Software:

1. On the computer desktop, double-click  to start the GxP Admin Portal Software.
2. In the GxP Admin Portal GxP Server Hostname dialog:

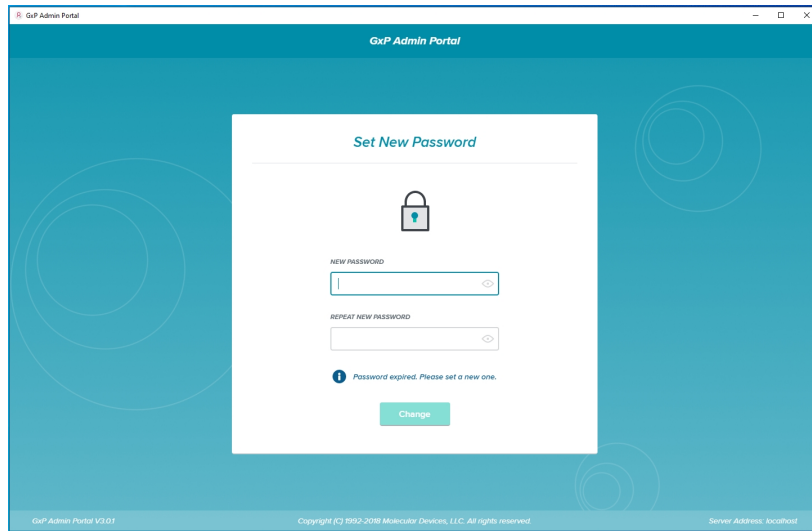


- a. In the **Server Hostname** field:
 - If you install the GxP Admin Portal Software on the same computer as the GxP Admin Software, enter **localhost**.
 - If you install the GxP Admin Portal Software on a different computer from the GxP Admin Software, enter the server hostname of the server that contains the GxP Admin Software.
 - b. Click **Continue**.
3. In the GxP Admin Portal Login dialog:



- a. In the **Username** field, enter the user name you entered when you installed the GxP Admin Software (default = gxpadmin) This is your administrator user and you can change the name in the software.
- b. In the **Password** field, enter the password you entered when you installed the GxP Admin Software.
- c. Click **Login**.

4. In the Set New Password dialog:



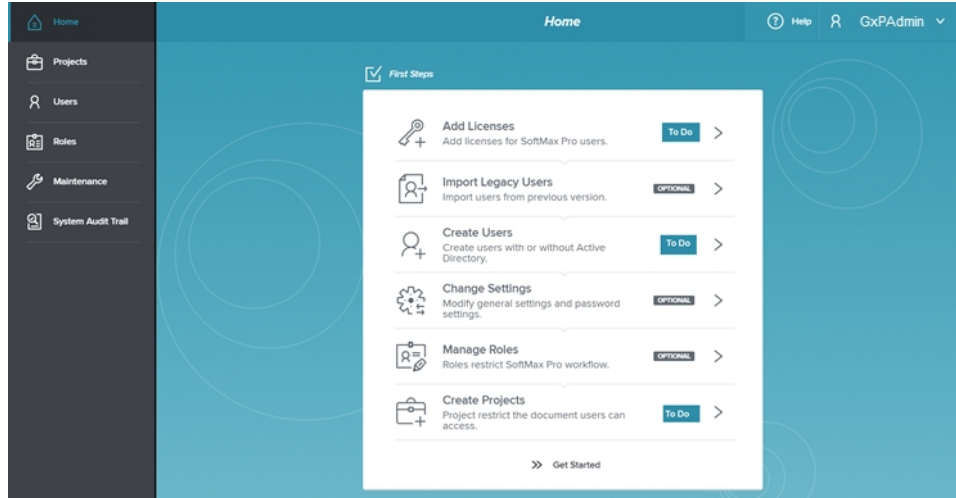
- a. In the **New Password** field, enter the new password for your administrator user. The password must be at least 10 characters long, contain at least one number, at least one lowercase letter, at least one uppercase letter, and at least one special character.
- b. In the **Repeat New Password** field, enter the password a second time.



Note: If you forget this password, you must reinstall the software.

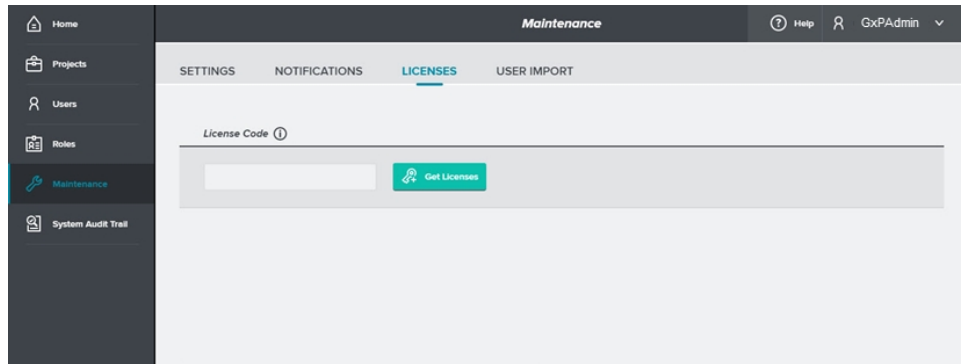
- c. Click **Change**.

5. On the Home page:



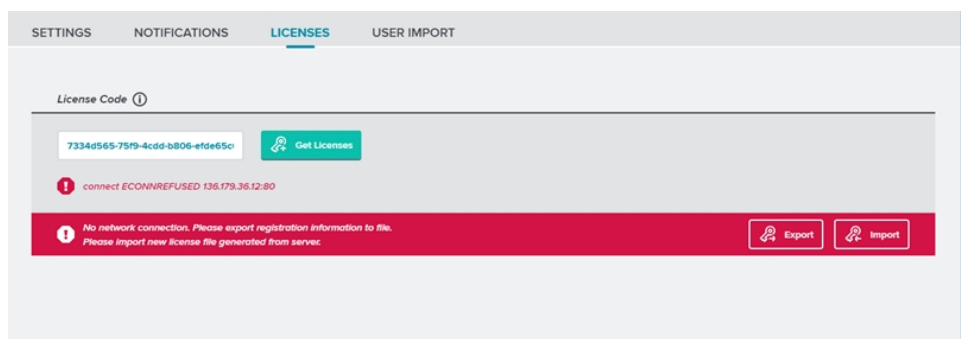
Click **Add Licenses**.

6. On the Licenses tab on the Maintenance page:



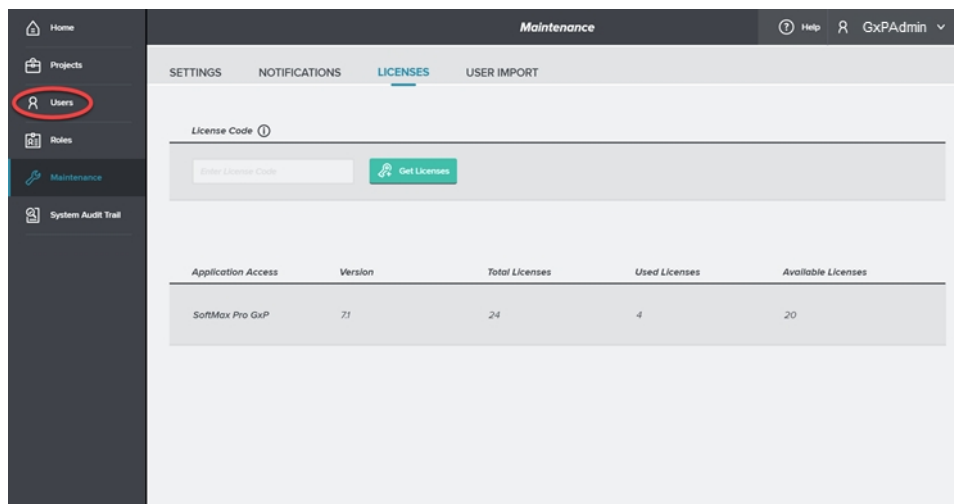
- In the **License Code** field, enter the license code. This code is printed on the SoftMax Pro GxP Certificate of License shipped with the installation DVD.
- Click **Get License**. If the computer is connected to the Internet, the code should be validated, and the license information displays on the page. Skip the next step. If the computer is not connected to the Internet, continue to the next step.

7. On the Licenses tab on the Maintenance page when the computer is not connected to the Internet:



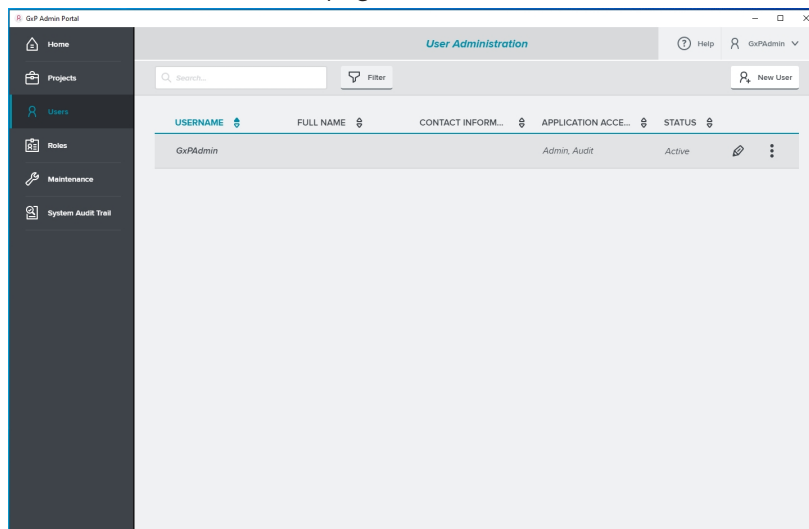
- Click **Export**.
- Save the **OfflineClaim.json** file to a USB drive or to a location that has access to the Internet.
- Contact Molecular Devices Technical Support to complete the Offline Activation process. Technical Support will send back a license activation ***.json** file. See [Obtaining Support on page 75](#)
- Save the license activation ***.json** file to a USB drive and insert the USB drive into the computer running the GxP Admin Portal Software.
- Click **Import** to import the license activation ***.json** file into the GxP Admin Portal Software.


8. On the left:



Click **Users**.

9. On the User Administration page:



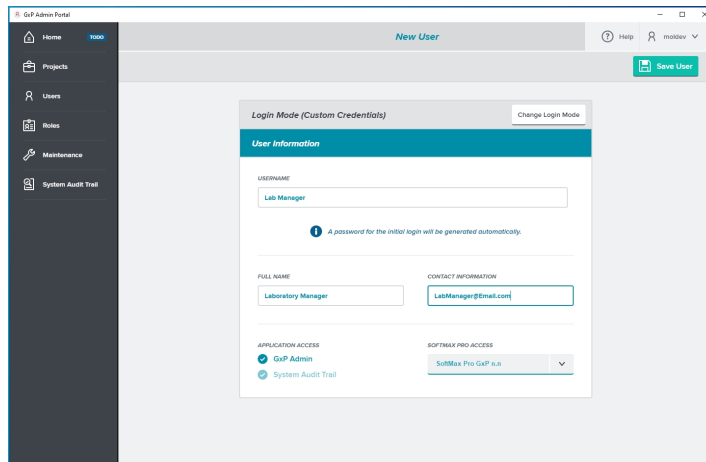
Next to the first user, click .

10. In the Edit User dialog:

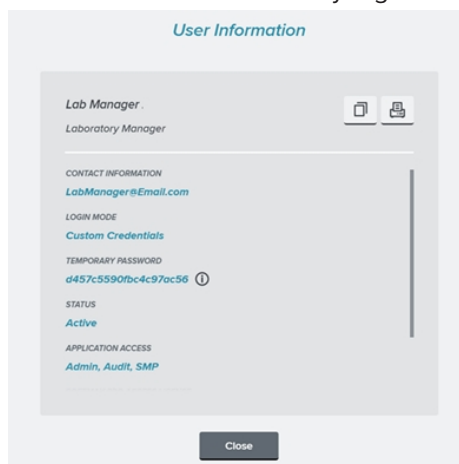
- a. In the **Full Name** field, enter the user's full name.
 - b. In the **Contact Information** field, enter the user's contact information.
 - c. For this user, the software selects and disables both **Application Access** check boxes. In general, you would leave the **SoftMax Pro Access** field set to **No Access** for this user because this is the user that you use to manage the other users and do not use in the SoftMax Pro GxP Software.
 - d. Click **Save User**.
11. If you update from GxP Admin Software version 2.x to GxP Admin Software version 3.x, you can use the GxP Admin EDB Converter Tool to convert the version 2.x .edb user files to the version 3.x edbexp file format. See [Converting Legacy Users on page 39](#). After you convert the user files to the .edbexp format, use the GxP Admin Portal Software to import usernames, passwords, and the GxP Admin Access permission into the version 3.x database. After you import the users you need to use the GxP Admin Portal Software to assign each user with the SoftMax Pro Access permission a license from the User Administration page and assign each user to a Project from the Project Administration page before the user can log in to the SoftMax Pro GxP Software. See [Importing Legacy Users on page 42](#).
12. To add new users, on the User Administration page:


Click **New User**.

13. To create users with the **Custom Credentials Login Mode** whose credentials are managed by the SoftMax Pro GxP Software Suite, do the following:
(Step 14 describes how to create users that use Windows Active Directory.)



- a. In the **Username** field, enter the user's name.
- b. In the **Full Name** field, enter the user's full name.
- c. In the **Contact Information** field, enter the user's contact information.
- d. To grant the user access to the GxP Admin Software via the GxP Admin Portal Software, select the **GxP Admin** check box. This also grants access to the System Audit Trail.
- e. To grant the user access to only the System Audit Trail, clear the GxP Admin check box and select the **System Audit Trail** check box.
- f. To grant the user access to the SoftMax Pro GxP Software, click the **SoftMax Pro Access** drop-down and select **SoftMax Pro GxP <n.n.n>**
- g. Click **Save User**. The User Information dialog contains the temporary password the user needs the first time they log in to the system:



- h. Click  to copy the user information to the computer clipboard.
- i. Either paste the user information into an email that you send to the user or open a word processing application and paste this information into a document that the user can access when they log in to the system.
- j. Click **Close**.

14. To Create users with the Windows Credentials Login Mode whose credentials are managed by your company's Windows Active Directory, do the following:

In the New User dialog:

- a. Click **Change Login Mode**.

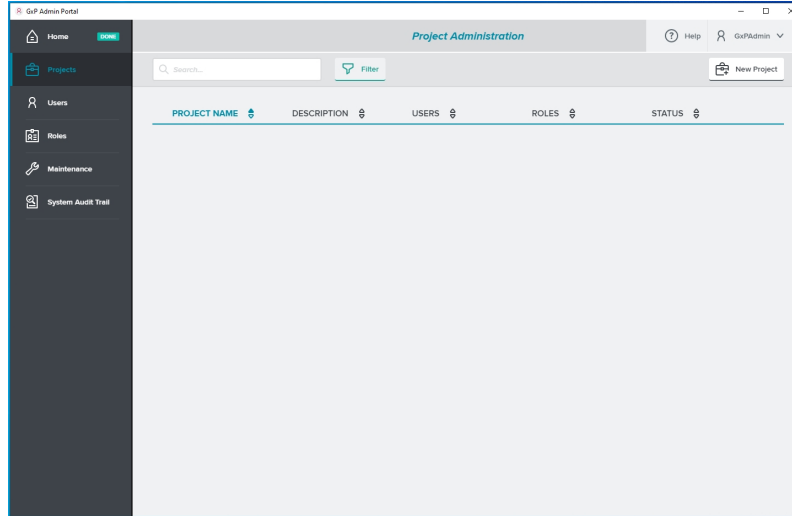
In the Login Mode dialog:

- b. Click **Use Windows Credentials**.

In the New User dialog:

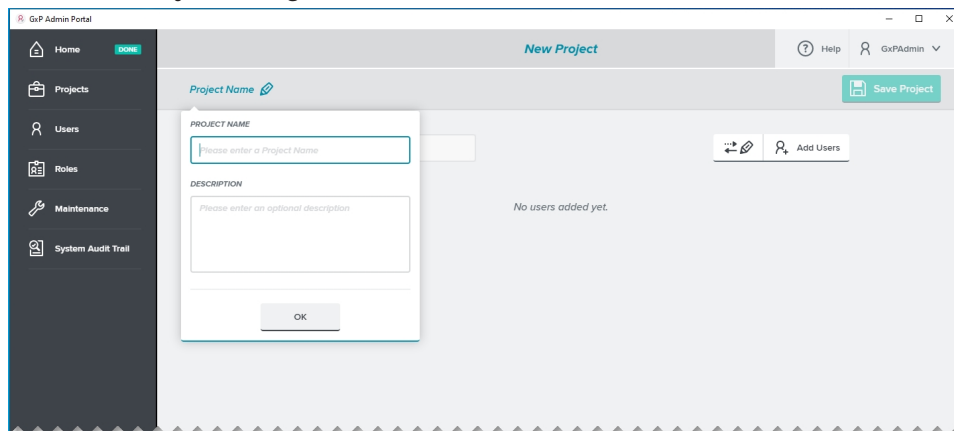
- c. In the **Username** field, enter a name that exists in your company's Active Directory database.
- d. Click **Verify**. The Software finds the user and populates the Full Name field and the Contact Information if that information is in the Active Directory database.
- e. To grant the user access to the System Audi Trail, select the **System Audit Trail** check box.
- f. To grant the user access to the GxP Admin Portal software, select the **GxP Admin** check box. This also grants access to the System Audit Trail.
- g. To grant the user access to the SoftMax Pro GxP Software, click the SoftMax Pro drop-down and select **SoftMax Pro GxP <n.n.n>**.

15. On the left, click **Projects**.
16. On the Project Administration page:



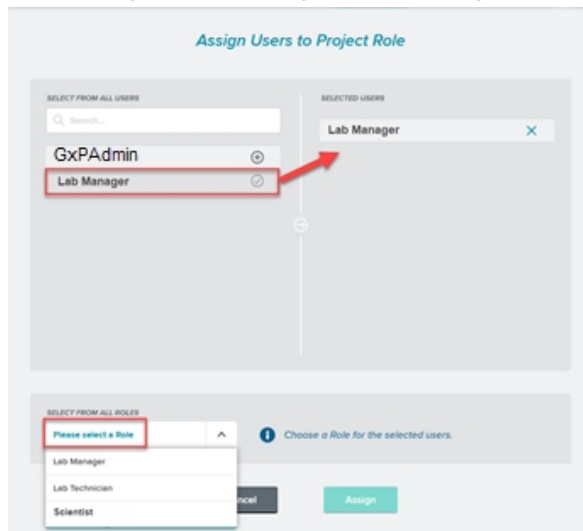
Click **New Project**.


17. In the New Project dialog:



- a. In the **Project Name** field, enter the project name.
- b. In the **Description** field, enter a description if you want.
- c. Click **OK**.
- d. Click **Add Users**.

18. In the Assign Users to Project Role dialog:



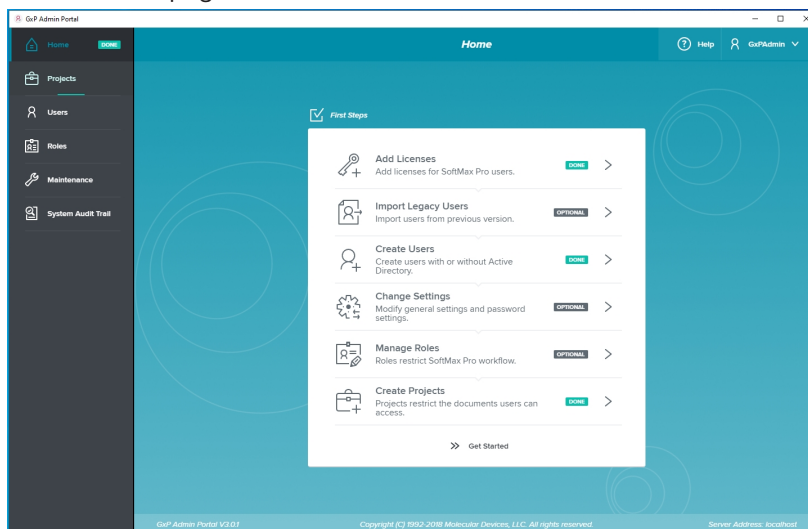
- Click  next to each user to add to the Project with the permissions you will grant in the next step.
- Click the **Select From All Roles** drop-down and select the Role that contains the permissions to grant to the users. You can select from the three default Roles that the installation creates or use the Role Administration page to manage Roles. See the *GxP Admin Software User Guide* or the application help.
- Click **Assign**.
- Repeat to add additional users with different Roles to the Project.



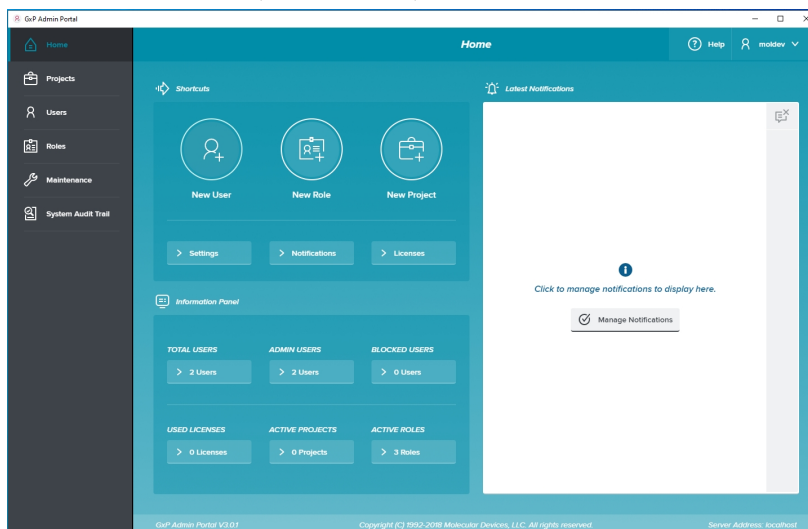
Note: You can assign a user to multiple Projects. Each user can have only one Role in each Project.

- In the New Project dialog, click **Save Project**.
- On the left, click **Home**.

21. On the Home page:



At the Bottom of the To Do list, click **Get Started** to display the Home page with shortcuts to relevant workflows, notifications, and other information.



22. Use the Settings tab on the Maintenance page to manage password strength requirements. See the *GxP Admin Software User Guide* or the application help.

Converting Legacy Users

The GxP Admin Software version 3.x is significantly different from the previous versions. The database structure is different and additional security permissions have been implemented. Therefore, if you want to use the users from GxP Admin Software version 2.x, you must convert legacy user files to an updated format and then import the legacy users into the GxP Admin Software version 3.x database.



Note: If you intend have users use your company's Active Directory database you will use the GxP Admin Portal Software to create new Windows Credentials login mode users. GxP Admin Software version 2.x did not support Windows Active Directory and users you convert are created as Custom Credential users in the GxP Admin Software 3.x software.

The GxP Admin EDB Converter Tool is a separate software application that converts the version 2.x user files that have an .edb file extension to the version 3.x user files that have an .edbexp file extension.



Note: After you convert the user files, you use the GxP Admin Portal Software to import usernames, passwords, and the GxP Admin Access permission into the GxP Admin Software version 3.x database. You must then assign each user with the SoftMax Pro Access permission a license from the User Administration page and to a Project from the Project Administration page.

The GxP Admin EDB Converter Tool installation file is in the following path:

SoftMax Pro GxP Installation

Scripts\Application\EDBConverterTool\EDBConverter<n.n>Setup.exe

To prepare to convert GxP Admin Software version 2.x user files that have the .edb file extension:

- You can run the GxP Admin EDB Converter Tool on the computer on which you install the SoftMax Pro GxP Software Suite if the computer has a network connection to the computers that contain the .edb files.
- You can use a flash drive to copy the .edb files to any location on the computer on which you install the SoftMax Pro GxP Software Suite.
- You can use a flash drive to move the GxP EDB Converter folder to the computer on which the .edb files are located.
- You can install the GxP Admin EDB Converter Tool on other computers.

Install the GxP Admin EDB Converter Tool

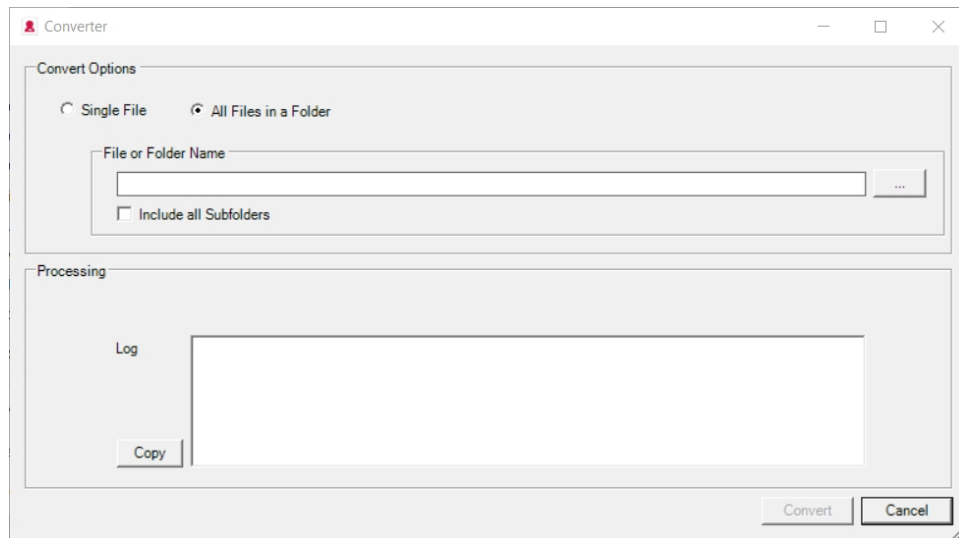
To install the GxP Admin EDB Converter Tool:

1. Insert the GxP Admin Software DVD in the computer DVD drive or use alternative media. Locate and double-click EDBConverter<n.n.n>Setup.exe file to start the install.
2. On the Welcome page, click **Next**.
3. On the License Agreement page:
 - a. Select the **I Accept the Agreement** check box.
 - b. Click **Next**.
4. On the Destination Folder page and the pages that follow, click **Next** to accept the default settings or you can read the instructions and do a custom installation until the Installation Complete page displays.
5. On the Installation Complete page, click **Finish**.

The GxP Admin EDB Converter Tool icon  appears on the computer desktop.



Converting Legacy User Files

The GxP Admin EDB Converter Tool is a separate software application that you run on a computer that has access to your legacy GxP Admin Software user files. The GxP Admin Software version 2.x user files have an .edb file extension and the GxP Admin Software version 3.x user files have an .edbexp file extension.





Converting a Single File

To convert one .edb file to an .edbexp file:

1. Click  or locate and double-click **ConverterTool.exe** to display the Converter dialog.
2. Select the **Single File** Convert Option.
3. To the right of the File or Folder Name field, click  to display the Open dialog.
4. Navigate to the .edb file and click **Open** to display the path to the file in the File or Folder Name field. Note this location because the software places the new .edbexp file here.
5. Click **Convert**. The Log field displays the progress of the conversion.
6. The software places the .edbexp file in the same folder as the .edb file. Copy the .edbexp file to a flash drive or place it on a network drive that is accessible to the computer running the GxP Admin Portal Software.

Converting Multiple Files

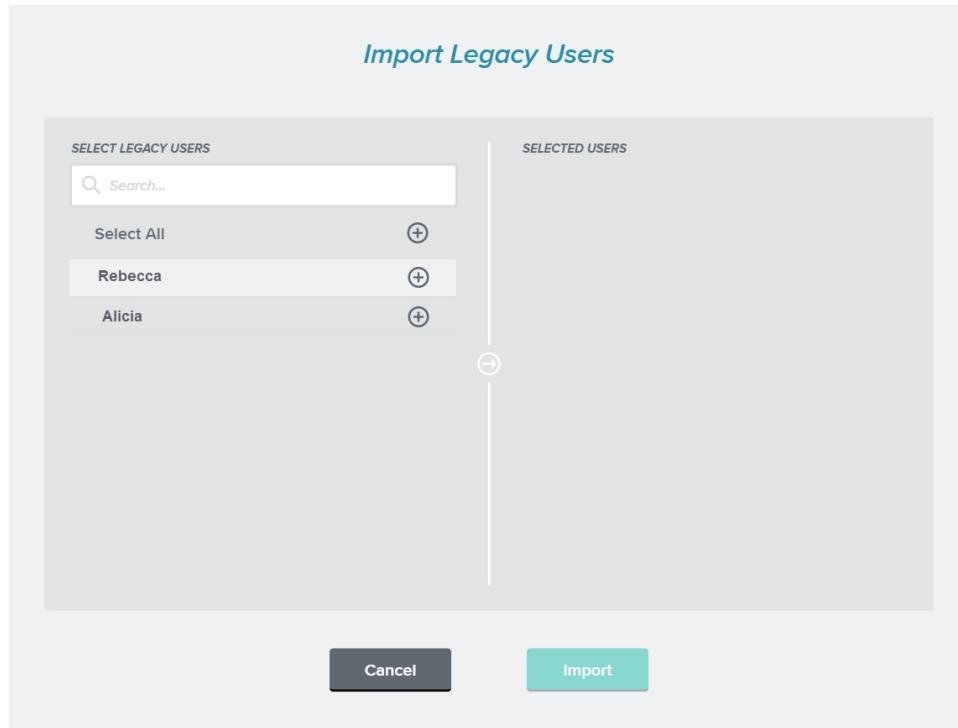
To convert multiple .edb files to .edbexp files:

1. Click  or locate and double-click **ConverterTool.exe** to display the Converter dialog.
2. Select the **All Files In a Folder** Convert Option.
3. To the right of the File or Folder name field, click  to display the Browse For Folder dialog.
4. Navigate to the folder that contains the .edb files and click **OK** to display the path to the folder in the File or Folder Name field.
5. Select the **Include All Subfolders** check box to convert all .edb files in the subfolders of the folder you select.
6. Click **Convert**. The Log field displays the progress of the conversion. The EDB Converter Tool creates an .edbexp file for each .edb file in the same location as the .edb file.
7. Copy the .edbexp files to a flash drive or place them on a network drive that is accessible to the computer running the GxP Admin Portal Software.

Importing Legacy Users

Use the Import Legacy Users dialog to select the individual user names to import into the GxP Admin Software version 3.x database.

After you complete the import, you must use the User Administration page to assign each user who is to have access to the SoftMax Pro GxP Software a license and then assign each user to at least one Project.




To import users:

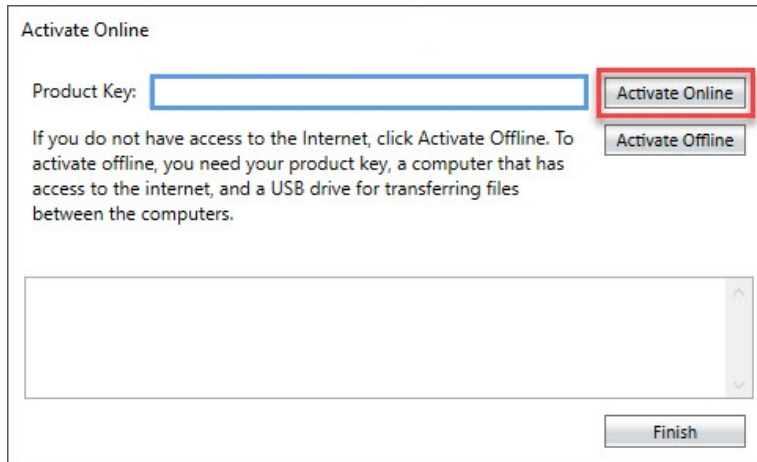
1. Use the GxP Admin EDB Converter Tool to convert legacy .edb files to .edbexp files and save the .edbexp files to a location from where the GxP Admin Portal Software can access the files. See [Converting Legacy Users on page 39](#).
2. On the left, click **Maintenance** to display the Maintenance page.
3. Select the **User Import** tab.
4. Click **Import**.
5. Navigate to the .edbexp file.
6. Click **Open**.

Chapter 9: Getting Started Licensing the SoftMax Pro GxP Software

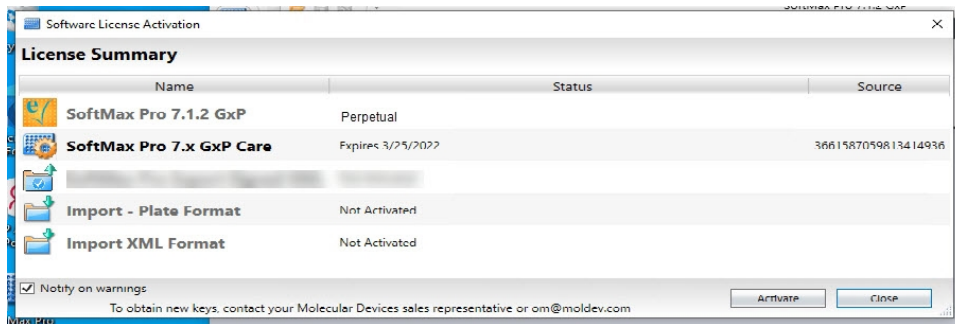


The SoftMax Pro GxP Software is the software that controls the microplate reader and does data analysis. After you use the GxP Admin Portal Software to create users and Projects, you can start using the SoftMax Pro GxP Software.

1. On the computer desktop, double-click  to start the SoftMax Pro GxP Software.
2. On the Software License Activation page, click **Activate**.
3. In the Activate Online dialog:



- a. In the **Product Key** field, enter the product key.
 - b. If the computer has access to the Internet, click **Activate Online**.
If the computer does not have access to the Internet, see [Activating SoftMax Pro GxP Offline on page 46](#).
 - c. Wait for the *Activation Success* message and click **Finish**.
4. In the License Summary dialog:

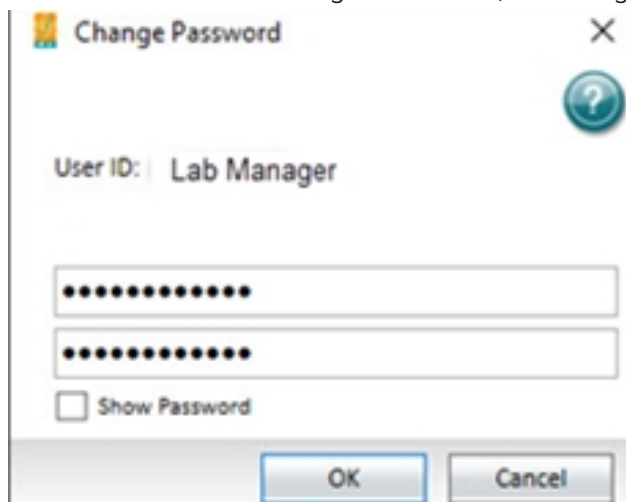


Note that SoftMax Pro 7 GxP has a perpetual license.

5. On the SoftMax Pro GxP Log On dialog:

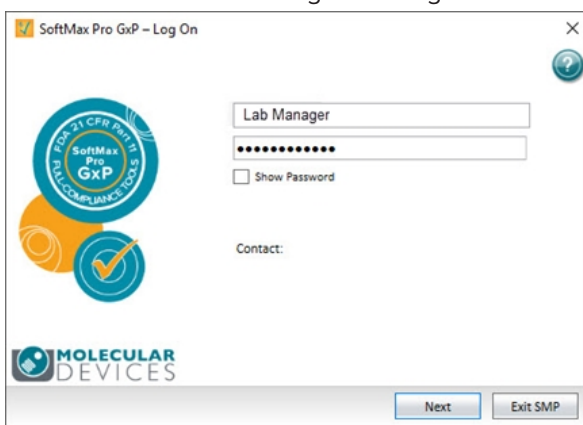


- a. In the **User ID** field, enter the name of the user you created in the GxP Admin Portal Software to whom you assigned a SoftMax Pro license.
 - b. For a Custom Credentials login mode user, open the email or word processing application file that contains the password that the GxP Admin Portal Software generated. Copy and paste the password in the **Password** field.
For a Windows Credential login mode user, enter the user's Active Directory password in the **Password** field.
 - c. Click **Next**.
6. For a Custom Credentials login mode user, the Change Password dialog displays:



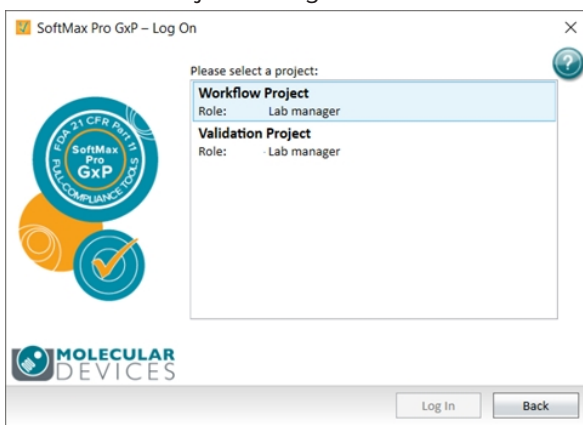
- a. In the **New Password** field, enter a new password. Default password strength settings require that the password must be at least 10 characters long, contain at least one number, at least one lowercase letter, at least one uppercase letter, and at least one special character.
- b. In the **Confirm Password** field, re-enter the password.
- c. Click **OK**.
- d. Click **OK** on the confirmation message.

7. In the SoftMax Pro GxP Log On dialog:



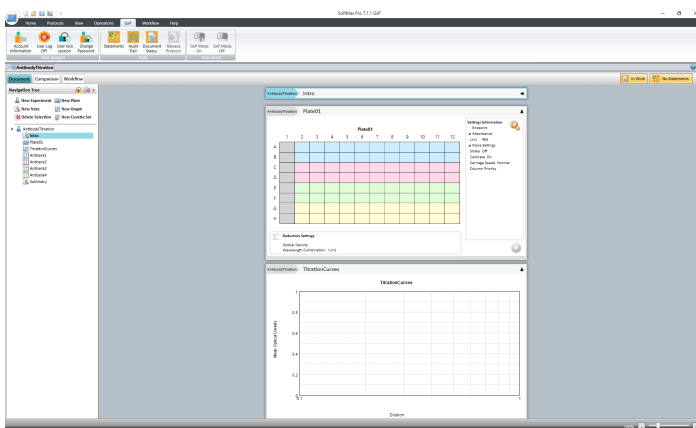
- a. In the **Password** field, enter the new password.
- b. Click **Next**.

8. In the Select Project dialog:



- a. Select a Project to which you associated the user. A user can be a member of multiple Projects.
- b. Click **Log In**.

9. In the SoftMax Pro GxP Software:



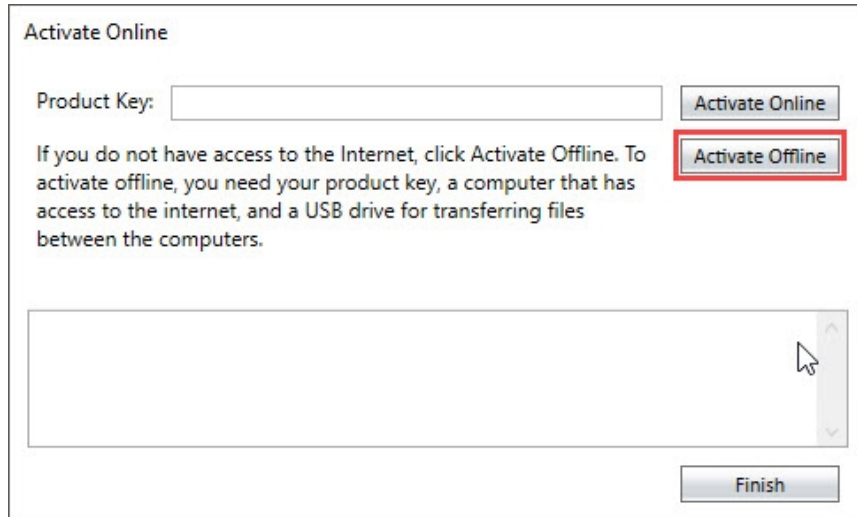
Begin using the software. See the *SoftMax Pro Data Acquisition and Analysis Software User Guide*.

Activating SoftMax Pro GxP Offline

When the computer onto which you install the SoftMax Pro GxP Software cannot connect to the Internet, you need a USB drive and access to a computer that is connected to the Internet.

To license the SoftMax Pro GxP Software on a computer that cannot connect to the Internet:

1. In the Activate Online dialog:



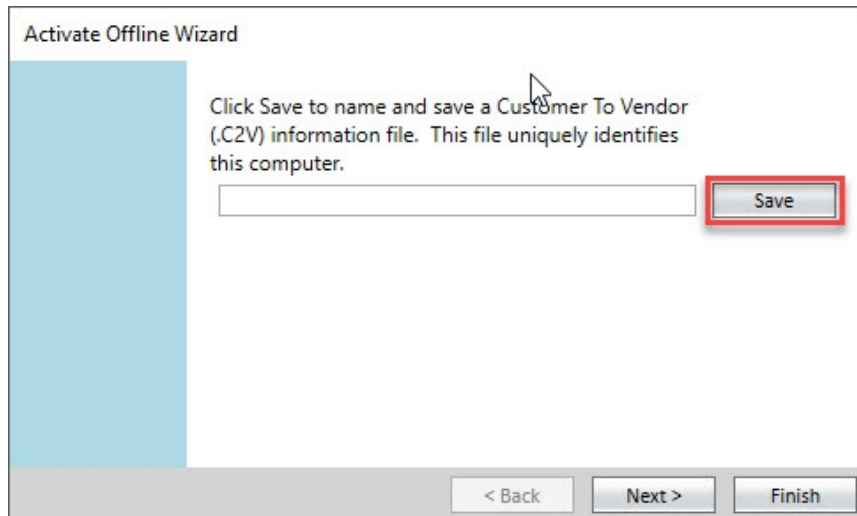
Activate Online

Product Key:

If you do not have access to the Internet, click Activate Offline. To activate offline, you need your product key, a computer that has access to the internet, and a USB drive for transferring files between the computers.

Click **Activate Offline**.

2. In the Activate Offline Wizard dialog:

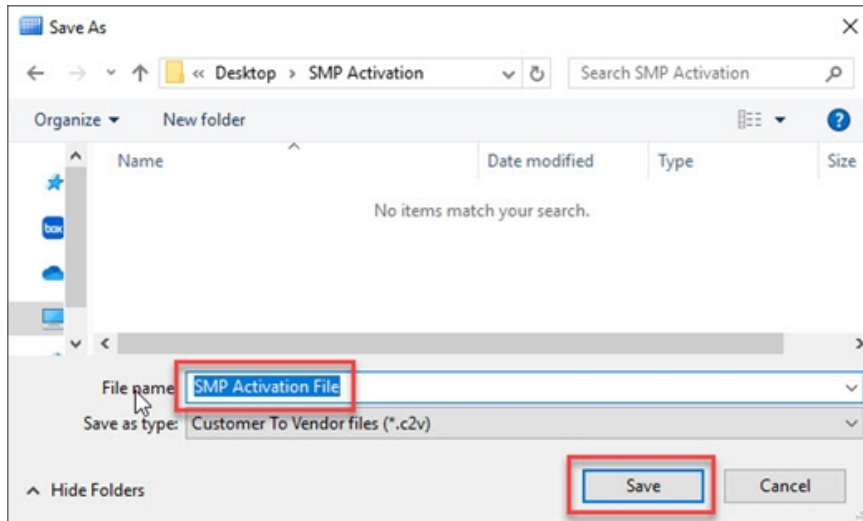


Activate Offline Wizard

Click Save to name and save a Customer To Vendor (.C2V) information file. This file uniquely identifies this computer.

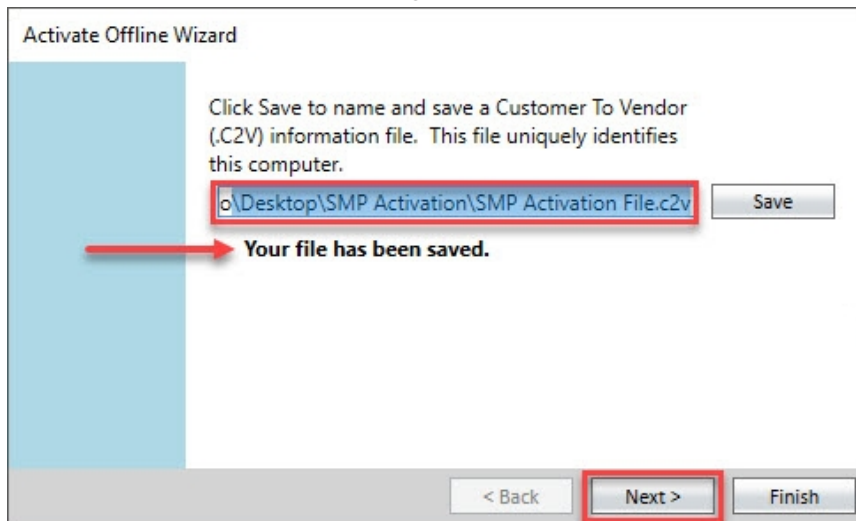
Click **Save**.

3. In the Save As dialog:



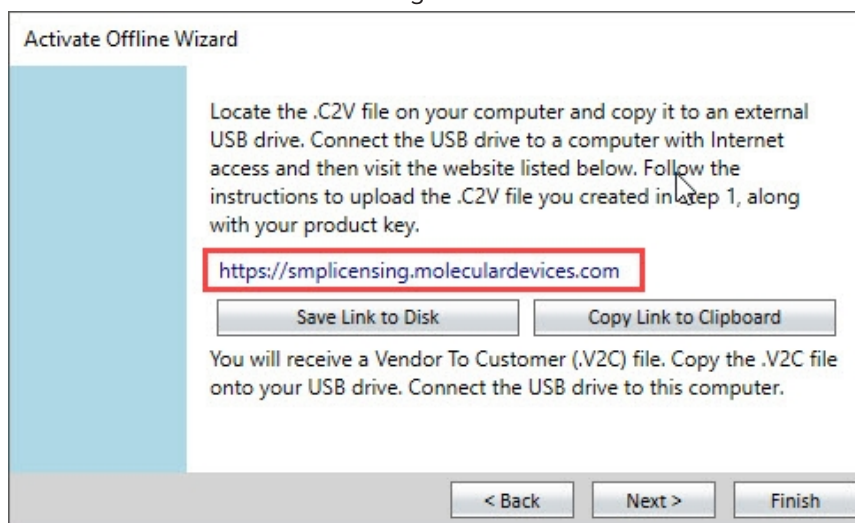
- a. In the **File Name** field, enter a name for the customer to vendor file (.c2v).
- b. Navigate to the folder in which to save the .c2v file.
- c. Click **Save**.

4. In the Activate Offline Wizard dialog:

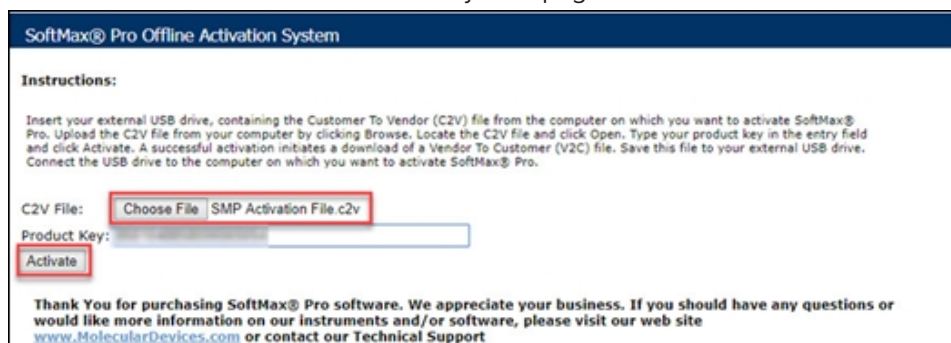


Note the path to the file and click **Next**.

5. In the Activate Offline Wizard dialog:

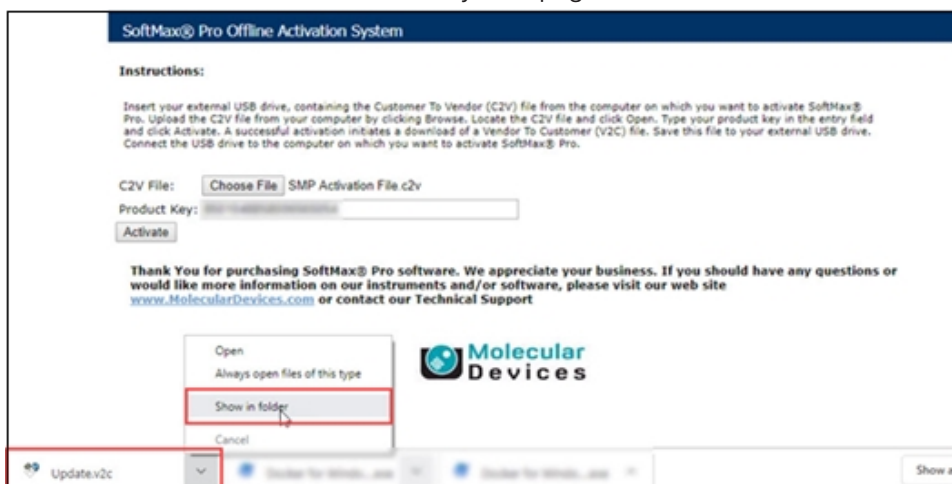


- a. Copy the **.c2v** file to a USB drive.
 - b. Click **Save Link to Disk**, **Copy Link to Clipboard** or make note of the link. You need this link for step 8.
6. Take the USB drive to a computer that has access to the Internet.
 7. Open an Internet browser and go to: <https://smplicensing.moleculardevices.com>.
 8. On the SoftMax Pro Offline Activation System page:

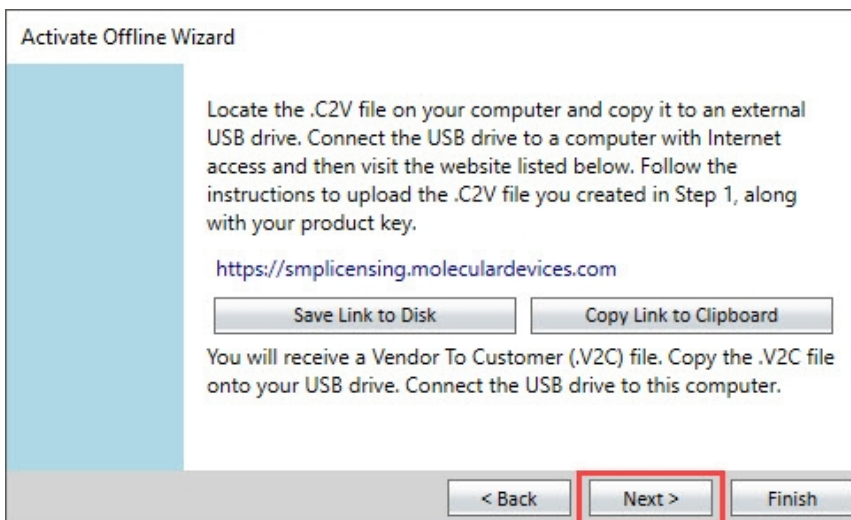


- a. Click **Choose File**.
- b. Navigate to and select the **.c2v** file on the USB drive.
- c. Click **Activate**.

9. On the SoftMax Pro Offline Activation System page:

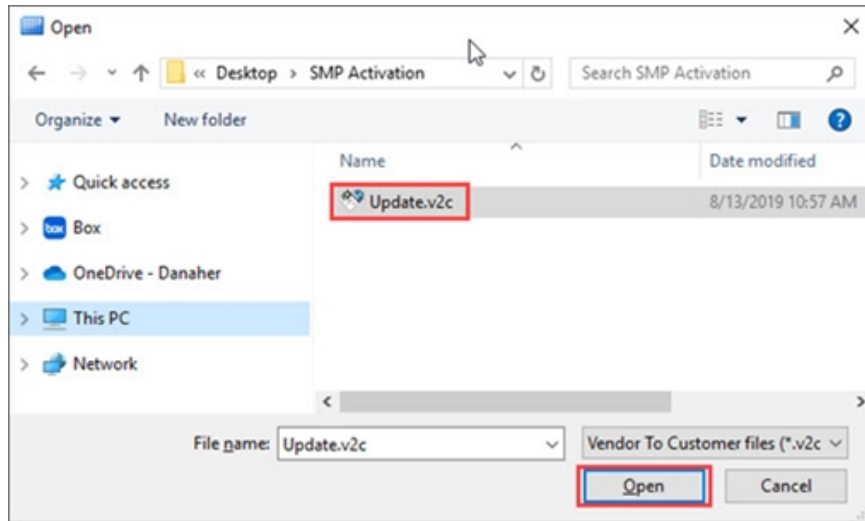


- a. Click **Show in Folder** to display the location of the **Update.v2c** file that the activation system downloads to your computer. Otherwise, locate the **Update.v2c**.
 - b. Copy the **Update.v2c** file to the USB drive.
10. Take the flash drive to the computer running the SoftMax Pro GxP Software. In the Activate Offline Wizard:



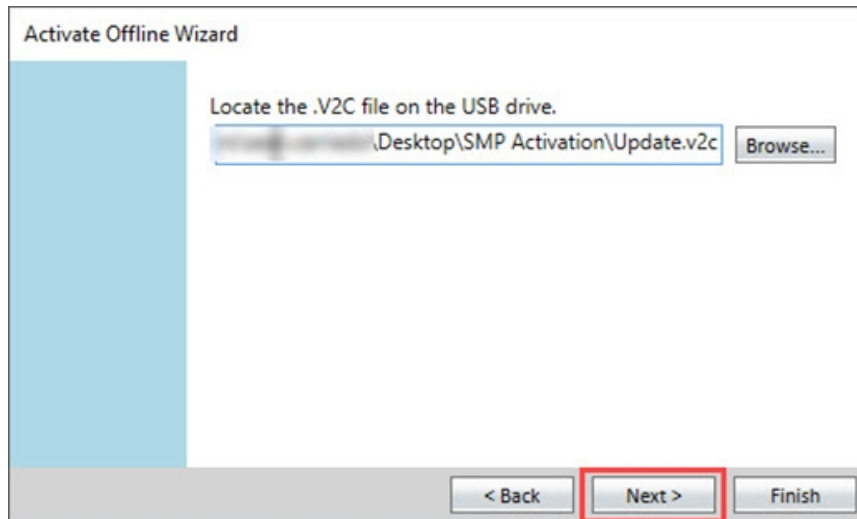
Click **Next**.

11. In the Open dialog:



- a. Navigate to and select the **Update.v2c** file on the USB drive.
- b. Click **Open**.

12. In the Activate Offline Wizard:



Note the name and location of the **Update.v2c** file and click **Next**.

13. In the Activate Offline Wizard:

Activate Offline Wizard

Re-enter your product key and then click Activate.

Activate

< Back Next > Finish

- In the **Re-enter Your Product Key and then Click Activate** field re-enter the product key.
 - Click **Activate**.
 - Click **Finish**.
14. In the License Summary dialog:

Name	Status	Source
SoftMax Pro 7.1.2 GxP	Perpetual	
SoftMax Pro 7.x GxP Care	Expires 3/25/2022	3661587059813414936
Import - Plate Format	Not Activated	
Import XML Format	Not Activated	

Notify on warnings
To obtain new keys, contact your Molecular Devices sales representative or om@moldev.com

Activate Close

Note that SoftMax Pro <n.n.n> GxP has a perpetual license.



Appendix A: Custom Installation Scenarios



Every network is unique. Every multi computer setup is unique. This chapter describes examples of how to customize your installation of the SoftMax Pro GxP Software Suite. You should consult with Molecular Devices Technical Support for complex installations.

Complete the following sections in the sequence presented.

Unpacking the Files

Locate and double-click the SoftMax Pro 7.1.2 GxP - Multi Computer Installation Components.msi to run the wizard that unpacks the installation files to either a USB drive or a network location that is accessible to all computers in the SoftMax Pro GxP Software Suite. See [New Installation - Unpacking Installation Files on page 15](#).

Entering Parameters

The parameters in the parameter script files are unique to your installation. The sample deployment scripts use the parameters you enter into the parameter script files to install the software.

Configuration.ps1

The Configuration.ps1 file is in the Examples folder. You edit the parameters in the Configuration.ps1 file to enter the domain name, aliases, and machine name for the server on which you install the GxP Admin Software and the SQL database.

Prerequisites: PowerShell version 5.1, 64-bit exists and you must be able to execute scripts with the execution policy set to at least `Remote Signed` on the computer.

To enter the parameters into the Configuration.ps1 parameter script file:

1. Open PowerShell ISE as Administrator and execution policy set to at least `Remote Signed` on the computer.

```
Administrator: Windows PowerShell ISE
File Edit View Tools Debug Add-ons Help
PS C:\Windows\system32> set-executionpolicy bypass
PS C:\Windows\system32> |
```

2. Navigate to the **Examples** folder.

```
PS C:\Windows\system32> cd 'C:\SoftMax Pro GxP Components\Examples'
PS C:\SoftMax Pro GxP Components\Examples> |
```

- Open the Configurations.ps1 script.

```

Configuration.ps1 X
1  #
2  .SYNOPSIS
3  Configuration file.
4  .DESCRIPTION
5  Configuration file for GxP installer scripts. Holds common
6  variables used within the scripts to configure a multi computer
7  GxP system.
8  #>
9
10 # Fully qualified machine name for the GxP server.
11 $ServerFQDN = 'machine.company.com'
12
13 # Aliases for the server, used when creating the server certificates.
14 $ServerAliases = 'machine.company.com,machine'
15
16 # Fully qualified machine name for the where the SQL server resides.
17 # Note: If you are using a named instance, this should be modified
18 # to "<machine_name>\<instance_name>" (ex.: "machine.domain.com\sqlexpress")
19 $SqlFQDN = 'sql.company.com'
20

```

- In the `$ServerFQDN = 'machine.company.com'` line, replace `'machine.company.com'` with the fully qualified machine name for the server onto which you install the GxP Admin Software used to create the certificates.
- In the `$ServerAliases = 'machine.company.com,machine'` line, replace `'machine.company.com,machine'` with the aliases for the server used in the creation of server certificates.
- In the `$SqlFQDN = 'sql.company.com'` line, replace `'sql.company.com'` with The fully qualified machine name of the computer that contains the SQL database.



Note: If you use a named instance, change this to "`<machine_name>\<instance_name>`"
For example, "`machine.domain.com\sqlexpress`"

Parameters: Configuration.ps1

Sample Deployment Script Files Parameter	Installation Foundation Script Files Equivalent	Description
ServerFQDN	IP_CompanyName	The fully qualified machine name for the server onto which you install the GxP Admin Software used to create the certificates.
ServerAliases	IP_HostNamesAliases	The aliases for the server used in the creation of server certificates.
sqlFQDN	IP_ServerName	The fully qualified machine name of the computer that contains the SQL database. Note: If you use a named instance, change this to " <code><machine_name>\<instance_name></code> " For example, " <code>machine.domain.com\sqlexpress</code> "

Utils.ps1

The utils.ps1 file is in the Lib folder. You can use the default settings in the utils.ps1 parameter script file to do most installations. All examples in this document use the default parameters.

You can edit the following parameters in the utils.ps1 file.

Parameters: utils.ps1

Sample Deployment Script Files Parameter	Installation Foundation Script Files Equivalent	Description
FoundationScriptRoot	n/a	The location of the SoftMax Pro GxP Components folder. Default = ..\
ProgramRoot	n/a	The location for the installation of the service executables for the GxP Admin Software application. Default = {env:ProgramFiles}\Molecular Devices
ProgramRootX86	n/a	The location for the installation of the SoftMax Pro GxP Software. Default = {env:Program Files (X86)}\Molecular Devices
ServerRoot	n/a	The location for the installation of the GxP Admin Software. Default = ProgramRoot\GXP Admin\Server
ClientRoot	n/a	The location for the installation of the GxP Admin Portal Software. Default = ProgramRoot\GxP Admin\Client
ADClientRoot	n/a	The location for the installation of the GxP active directory service executable. Default = "\$ServerRoot\ADClient"
SvcUserName	IP_UserName	The username of the service user used to run services. DO NOT CHANGE! Default = gxpsvc
GxPName	IP_GXPUserName	The name of the administrator user you will use for the first login of SoftMax Pro GxP Software Suite. Default = gxpadmin Note: Must start with an alpha character and be at least six alphanumeric characters. Cannot contain special characters or spaces. You can change this in the software after the installation completes.
WebName	IP_WSUserName	The name of the SQL database user for the WebService table. (Default = WebServiceAccess)
DataName	IP_DSUserName	The name of the SQL database user for the DataService table. Default = DataServiceAccess
SqISa	IP_SAUUserName	The name of the SQL server administrator user who has permission to create and edit database objects. Default = sa

Custom Installing GxP Admin Software

You can edit the parameters in the installation scripts to customize your installation.

Prerequisites: PowerShell version 5.1, 64-bit exists and you must be able to execute scripts with the execution policy set to at least `Remote Signed` on the computer.

Parameters: ServerInstall.ps1

Parameter	Description
Mode	Run in Install mode.
InstallDb	Turn On to create a new SQL Express database Turn Off to use an existing database.
DoNotCreateUser	Turn On to use an existing local domain user. Turn Off to create a new service user.
DetailedLog	Turn On to create detailed log messages. Turn Off to not create detailed log messages.

Examples:

Perform dry run check.

```
ServerInstall.ps1 -Mode C
```

Perform installation and create new server databases.

```
ServerInstall.ps1 -Mode I -InstallDb
```

Perform installation and use existing server databases.

```
ServerInstall.ps1 -Mode I
```

Perform installation and use existing server databases and existing service user.

```
ServerInstall.ps1 -Mode I -DoNotCreateUser
```


GxP Admin Software Installation Foundation Scripts

The ServerInstall.ps1 sample deployment script runs the following installation foundation script files in the following sequence.

1. **Manage-PSModules.ps1** - This script checks for and installs the PowerShell modules to run the installation.
2. **Manage-Database.ps1** - This script prepares the Microsoft SQL database and adds the first user's name and password. This user is the administrator user for the SoftMax Pro GxP Software Suite.
3. **Manage-User.ps1** - This script creates the service user who manages the services on the computer (default = gxpsvc).
4. **Manage-System.ps1** - This script, run with the IP_DeploymentType parameter set to S (server), installs the GxP Admin Software.
5. **Manage-Certificates.ps1** - This script creates the certificates that networked computers use to transmit encrypted data across a network.
6. **Manage-Configuration.ps1** - This script, run with the Mode parameter set to E (edit), updates the config.json file.
7. **Manage-Services.ps1** - This script creates the services that the SoftMax Pro GxP Software Suite uses.
8. **Installation-Qualification.ps1** - This script is optional and generates a report.

Manage-PSModules

Prerequisites: PowerShell version 5.1, 64-bit exists and you must be able to execute scripts with the execution policy set to at least `Remote Signed` on the computer.

This script checks for and installs the PowerShell modules to run the installation.

Mandatory Parameters: Manage-PSModules

Parameter	Description
IP_Mode	Run in Install mode.

Verification:

Script runs with no errors.

Manage-Database

Prerequisites: Run Manage-PSModules.ps1

This script prepares the SQL database and adds the first user's name and password. This user is the administrator user for the SoftMax Pro GxP Software Suite software.

Mandatory Parameters: Manage-Database

Parameter	Description
IP_Mode	Run in Install mode.
IP_ServerName	The name or IP address of the database server including instance name or port. (From Configuration.ps1)
IP_SAUUserName	The name of the user who has permission to create SQL database objects. (From utils.ps1. Default = sa)
IP_SAPassword	The password of the SQL database user IP_SAUUserName. (You will enter this.)
IP_WSUserName	The name of the SQL database user for the WebService table. (From utils.ps1. Default = WebServiceAccess)
IP_WSPassword	The password of the IP_WSUserName user. (Uses the IP_SAPassword.)
IP_DSUserName	The name of the SQL database user for the DataService table. (From utils.ps1. Default = DataServiceAccess)
IP_DSPassword	The password of the IP_DSUserName user. (Uses the IP_SAPassword.)
IP_GXPUserName	The name of the administrator user you will use for the first login of the SoftMax Pro GxP Software Suite. (From utils.ps1. Default = gxpadmin) Note: Must start with an alpha character and be at least 6 alphanumeric characters. Cannot contain special characters or spaces. You can change this in the software. You must remember this username and the following password to log onto the GxP Admin Portal Software.
IP_GXPPassword	The password of the administrator (IP_GXPUserName) user. (You will enter this.) Note: Must be at least six alphanumeric characters and cannot contain special characters or spaces. The software forces you to change this to a strong password upon first login.



CAUTION! Remember the username (IP_GXPUserName) and password (IP_GXPPassword) you enter here. This is the SoftMax Pro GxP Software Suite administrator user. If you forget this you must reinstall the software.

Verification:

If you have SQL Management Studio, use SQL Management Studio to confirm the creation of the following databases:

- Dataservice
- Webservice

Manage-User

Prerequisites: Run Manage-Database.ps1.

This script creates the service user who manages the services on the computer.



Note: If you intend to use Windows Credentials login mode users, the IP_UserName you enter into this script must be a user that is in your company's Active Directory database and the IP_PassWord must be their password in the Active Directory.

Mandatory Parameters: Manage-User

Parameter	Description
IP_Mode	Run in Install mode.
IP_UserName	The username of the user who runs the services on the server. (From utils.ps1. Default = gxpsvc)
IP_PassWord	The password of the IP_UserName user. (Uses the IP_SAPassword.)

Verification:

Use Windows Explorer to confirm that there is a folder under the Users folder that is named for the IP_UserName.

Default = C:\Users\gxpsvc

Manage-System

Prerequisites: Run Manage-User.ps1.

This scrip installs the GxP Admin Software.

Mandatory Parameters: Manage-System

Parameter	Description
IP_Mode	Run in Install mode.
IP_DeploymentType	Set to S (server) to install the GxP Admin Software.
IP_InstallationDirectoryApplication	The directory into which to install application files.

Verification:

Use Windows Explorer to locate the config.json file. Default path:

C:\Users\gxpsvc\AppData\Roaming\MolecularDevices\GxPAdmin\Server\Configuration\config.json

Locate the service executables. Default path:

C:\Program Files\Molecular Devices\GxP Admin\Server

Manage-Certificates

Prerequisites: Run Manage-System.ps1.

This script creates the certificates that allow the GxP Admin Software computer, the GxP Admin Portal Software computer, and the SoftMax Pro GxP Software computer to transmit encrypted data across a network.

Mandatory Parameters: Manage-Certificates

Parameter	Description
IP_CreateCertificates	Switch On to create the certificates.
IP_CompanyName	The company name for the certificate.
IP_CAPassword	The root certificate password. (Uses the IP_SAPassword.)
IP_SVPassword	The server certificate password. (Uses the IP_SAPassword.)
IP_HostNamesAliases	The hostnames, aliases, and IP addresses delimited by a comma. (From Configuration.ps1) For example, "servername,serveraliase1,serveraliase2,10.120.140.200"
IP_CertificateDirectory	The path to the directory in which to deploy the certificates on the computer.

Verification:

Use Windows Explorer to locate the Certificate directory in the path you enter in the script.



Note: Copy the Certificate folder to the USB drive or to a location that is accessible to all computers onto which you will install the GxP Admin Portal Software and the SoftMax Pro GxP Software.

Manage-Configuration

Prerequisites: Run Manage-Certificates.ps1.

This script updates the config.json file to add the certificate information.

Mandatory Parameters: Manage-Configuration

Parameter	Description
IP_Mode	Run in Edit mode.
IP_ServerClient	Set to S (server) to update the server configuration.
IP_ConfigurationPath	The path to the config.json file that the Manage-System.ps1 script creates.

Verification:

Open the config.json file and confirm that appropriate fields are populated.

Manage-Services

Prerequisites: Run Manage-Configuration.ps1.

This script creates the services to run the GxP Admin Software.

Mandatory Parameters: Manage-Services

Parameter	Description
IP_UserName	The username of the user who runs the services on the server. (From utils.ps1. Default = gxpsvc)
IP_PassWord	The password for the service user. (Uses the IP_SAPassword.)
IP_WorkingDirectory	The path to where the executable is going to run.
IP_Executable	The path to the executable that is going to run with AlwaysUp.

Verification:

Open the Services dialog and confirm that the following services have been created and are running:

- GXP_AU_ADCLIENT - Required when you intend to create users with the Windows Credentials login mode to use your company's Active Directory.
- GXP_AU_DATA
- GXP_AU_REPORT
- GXP_AU_WEB

Installation-Qualification

Optional: Generates a report.

Mandatory Parameters: Installation-Qualification

Parameter	Description
IP_Mode	Run in Record mode.
IP_Version	For the GxP Admin Software set the IP_Version variable to GXP Admin Server.
IP_ReportDirectory	The location where you want to place the report.

Verification:

Use Windows Explorer to locate the GXP Admin Server Report.pdf in the location you specify.

Example GxP Admin Software Installation Scenario

Do the following on the computer onto which you install the GxP Admin Software:

1. Start PowerShell and run as administrator.
2. Navigate to the Example scripts folder and enter the following command:

```
.\ServerInstall.ps1 -Mode C
```

Optional Parameters:

- - InstallDb = Turn On to install a new GxP Admin Software Microsoft SQL database or turn Off to use the an existing GxP Admin Software database.
- - DoNotCreateUser = Turn On to not create the service user or turn Off to create the service user (SvcUserName).

Acceptable Exit Codes:

- Manage-PSModules.ps1 = 30 unless PowerShell components are installed. When you run the ServerInstall.ps1 with Mode I the PowerShell components will be installed.
 - Manage-Database.ps1 = 0
 - Manage-User.ps1 = 10 unless the Service User SvcUserName is created. When you run the ServerInstall.ps1 with Mode I the Service User will be created.
 - Manage-System.ps1 = 0
 - Manage-Certificates.ps1 = 0
 - Manage-Configuration.ps1 = 340 The IP_CertificatePath does not exist and will be created when you run the ServerInstall.ps1 with Mode I.
 - Manage-Services.ps1 (GXP_AU_WEB) = 0
 - Manage-Services.ps1 (GXP_AU_DATA) = 0
 - Manage-Services.ps1 (GXP_AU_REPORT) = 0
 - Manage-Services.ps1 (GXP_AU_ADCLIENT) = 0
3. Enter the following command:

```
.\ServerInstall.ps1 -Mode I - InstallDb
```

Verification

All Exit Codes = 0

Use SQL Management Studio:

- The following databases exist:
 - DataService (default name)
 - WebService (default name)
- The following logins are seen:
 - DataServiceUser (default name)
 - WebServiceUser (default name)

Use Windows Explorer and confirm that a folder for the service user exists:

- C:/Users/gxpsvc (default name)

Open Windows Service dialog and check that the following services exist and are running:

- GXP_AU_ADCLIENT (default name)
- GXP_AU_DATA (default name)
- GXP_AU_REPORT (default name)
- GXP_AU_WEB (default name)

Validation Report

To generate a report that meets the requirements of the FDA 21 CFR Part 11 Final Rule enter the following command:

```
.\Installation-Qualification.ps1 - Mode Record - IP_Version GXP Admin  
Server - IP_ReportDirectory (path to location for the report)
```

Verification:

Use Windows Explorer and locate the GXP Admin Server Report.pdf in the location you enter in the script.

Custom Installing GxP Admin Portal Software

You can edit the parameters in the installation scripts to customize your installation.

Prerequisites: Complete the installation of the GxP Admin Software. Know the path to the installation foundation script files and the Certificate folder on the USB drive or share.

Parameters: PortalInstall.ps1

Parameter	Description
Mode	Run in Install mode.
InstallOnServer	Turn On to install the GxP Admin Portal Software on the same computer as the GxP Admin Software. Turn Off to install the GxP Admin Portal Software on a separate computer.
PathToPortalCertificate	The path to the certificate folder on the USB drive. The script copies the certificates to the computer certificate store.

Examples:

Perform dry run check.

```
PortalInstall.ps1 -Mode C
```

Perform portal installation on the same computer as the server.

```
PortalInstall.ps1 -Mode I -InstallOnServer
```

Perform portal installation and copy web app server certificate to computer certificate store.

```
PortalInstall.ps1 -Mode I -PathToPortalCertificate  
"C:\Certificates\portal\"
```

Perform portal installation without installing certificate. This is useful if you deploy a CA certificate to the GxP server.

```
PortalInstall.ps1 -Mode I
```

GxP Admin Portal Software Installation Foundation Scripts

The PortalInstall.ps1 sample deployment script runs the following installation foundation script files in the following sequence:

1. **Manage-Certificates.ps1** - This script implements the certificates used to transmit encrypted data across a network.
2. **Manage-System.ps1** - This script, run with the IP_DeploymentType parameter set to P (portal), installs the GxP Admin Portal Software.
3. **Installation-Qualification.ps1** - This script is optional and generates a report.

Manage-Certificates

Prerequisites: Install GxP Admin Software and copy the Certificates folder to the USB drive or an equally accessible location.

This script copies the certificates from the USB drive or share to the computer onto which you install the GxP Admin Portal Software.

Mandatory Parameters: Manage-Certificates

Parameter	Description
IP_CreateCertificates	Switch to Off.
IP_CompanyName	The company name for the certificate. Same as for the GxP Admin Software installation.
IP_CAPassword	The root certificate password. (Uses the IP_SAPassword.)
IP_SVPASSWORD	The server certificate password. (Uses the IP_SAPassword.)
IP_HostNamesAliases	The hostnames, aliases, and IP addresses delimited by a comma. (From Configuration.ps1) For example, "servername,serveralias1,serveralias2,10.120.140.200"
IP_CertificateDirectory	The path to the destination directory in which to deploy the certificates on the computer.
IP_SourceDirectory	The path to the certificates on the USB drive or share from which to copy the certificates.
IP_DeployToCertificateStore	Switch to On.

Verification:

Open the Computer Certificate Store and locate the MolDev_SMP_GxP... certificate.

Trusted Publishers\Certificates\

Manage-System

Prerequisites: Run Manage-Certificates.ps1 script.

This script installs the GxP Admin Portal Software.

Mandatory Parameters: Manage-System

Parameter	Description
IP_DeploymentType	Set to P (portal) to install the GxP Admin Portal Software.
IP_InstallationDirectoryApplication	The directory into which to install application files.

Verification:



displays on the computer desktop.

Installation-Qualification

Optional: Generates a report.

Mandatory Parameters: Installation-Qualification

Parameter	Description
IP_Mode	Run in Record mode.
IP_Version	For the GxP Admin Portal Software the IP_Version is GXP Admin Portal.
IP_ReportDirectory	The location where you want to place the report.

Verification:

Use Windows Explorer to locate the GXP Admin Portal Report.pdf in the location you specify.

Example GxP Admin Portal Software Installation Scenario

Prerequisites: The Certificates folder and SoftMax Pro GxP Components folder are accessible from the computer onto which you install the GxP Admin Portal Software.

To custom install the GxP Admin Portal Software:

1. Start PowerShell and run as administrator.
2. Navigate to the Example scripts folder and enter the following command:
`.\PortalInstall.ps1 - Mode C - PathToPortalCertificate (path to location of Certificates folder)`

Optional Parameter:

- - InstallOnServer = Turn On to install the GxP Admin Portal Software on the same computer onto which you installed the GxP Admin Software or turn Off to the GxP Admin Portal Software on computers that can access the GxP Admin Software computer.

Acceptable Exit Codes:


- Manage-Certificates.ps1 = 0
- Manage-System.ps1 = 0

3. Enter the following command:
`.\PortalInstall.ps1 - Mode I - PathToPortalCertificate (path to location of Certificates folder)`

Verification

All Exit Codes = 0

To verify the GxP Admin Portal Software installation:

1. On the computer desktop, double-click  to start the GxP Admin Portal Software to display the GxP Admin Portal GxP Server Hostname dialog.
2. In the **Server Hostname** field:
 - If you install the GxP Admin Portal Software on the same computer as the GxP Admin Software, enter **localhost**.
 - If you install the GxP Admin Portal Software on a different computer from the GxP Admin Software, enter the server hostname of the server that contains the GxP Admin Software.
3. Click **Continue** to display the GxP Admin Portal Login dialog.
4. In the **Username** field, enter the GxPName you entered when you installed the GxP Admin Software (default = gxpadmin).
5. In the **Password** field, enter the GxPPwd you entered when you installed the GxP Admin Software).
6. Click **Login** to display the Set New Password dialog.

Validation Report

To generate a report that meets the requirements of the FDA 21 CFR Part 11 Final Rule enter the following command:

```
.\Installation-Qualification.ps1 - Mode Record - IP_Version GXP
Admin Portal - IP_ReportDirectory (path to location for the report)
```

Verification:

Use Windows Explorer and locate the GXP Admin Portal Report.pdf in the location you enter in the script.

Custom Installing SoftMax Pro GxP Software

You can edit the parameters in the installation scripts to customize your installation.

Prerequisites: Complete the installation of the GxP Admin Software and the GxP Admin Portal Software. Know the path to the installation foundation script files and the certificate folder on the USB drive or share.

Parameters: ClientInstall.ps1

Parameter	Description
Mode	Run in Install mode.
InstallOnServer	Turn On to install the GxP Admin Portal Software on the same computer as the GxP Admin Software. Turn Off to install the GxP Admin Portal Software on a separate computer.
PathToClientCertificate	The path to the certificate folder on the USB drive. The script copies the certificates to the computer certificate store.

Examples:

Perform dry run check.

```
ClientInstall.ps1 -Mode C
```

Perform client installation on the same workstation as the server and copy client certificates to computer certificate store. Not recommended unless you install all components on one computer without a SQL Express database.

```
ClientInstall.ps1 -Mode I -InstallOnServer -  
PathToClientCertificateCertificates "C:\Certificates\client"
```

Perform client installation and copy certificates to computer certificate store.

```
ClientInstall.ps1 -Mode I -PathToClientCertificates  
"C:\Certificates\client"
```

SoftMax Pro GxP Software Installation Foundation Scripts

The ClientInstall.ps1 sample deployment script file runs the following installation script files in the following sequence:

1. **Manage-User.ps1** - This script uses the service user you created during the GxP Admin Software installation (default = gxpsvc).
2. **Manage-System.ps1** - This script, run with the IP_DeploymentType parameter set to C (client), installs the SoftMax Pro GxP Software.
3. **Manage-Certificates.ps1** - This script implements the certificates used to transmit encrypted data across a network.
4. **Manage-Configuration.ps1** - This script, run with the Mode parameter set to E (edit), updates the config.json file.
5. **Manage-Services.ps1** - This script creates the services that the SoftMax Pro GxP Software Suite uses.
6. **Installation-Qualification.ps1** - This script is optional and generates a report.

Manage-User

Prerequisites: Install GxP Admin Portal Software and copy the Certificates folder to the USB drive or an equally accessible location.

This script creates the user to contain and run data and services related to the SoftMax Pro GxP Software Suite.

Mandatory Parameters: Manage-User

Parameter	Description
IP_Mode	Run in Install mode.
IP_UserName	The username of the user who runs the services on the computer. Same as for the GxP Admin Software installation. (From utils.ps1. Default = gxpsvc).
IP_PassWord	The password of the IP_UserName user. (Uses the IP_SAPassword.)

Verification:

Use Windows Explorer to confirm that there is a folder under Users that is named for the IP_UserName.

Default = C:\Users\gxpsvc

Manage-System

Prerequisites: Run Manage-User.ps1.

This script installs the SoftMax Pro GxP Software.

Mandatory Parameters: Manage-System

Parameter	Description
IP_Mode	Run in Install mode.
IP_DeploymentType	Set to C (client) to install the SoftMax Pro GxP Software.
IP_InstallationDirectoryApplication	The directory into which to install application files.

Verification:



displays on the computer desktop.

Use Windows Explorer to locate the SoftMax Pro 7.1.2 folder. Default path:

C:\Program Files (x86)\Molecular Devices\SoftMax Pro 7.1.2)

Manage-Certificates

Prerequisites: Run Manage-System.ps1.

This script copies the certificates from the USB drive or share to the computer onto which you install the SoftMax Pro GxP Software.

Mandatory Parameters: Manage-Certificates

Parameter	Description
IP_CreateCertificates	Switch to Off.
IP_CompanyName	The company name for the certificate. Same as for the GxP Admin Software installation.
IP_CAPassword	The root certificate password. (Uses the IP_SAPassword.)
IP_SVPassword	The server certificate password. (Uses the IP_SAPassword.)
IP_HostNamesAliases	The hostnames, aliases, and IP addresses delimited by a comma. (From Configuration.ps1) For example, "servername,serveralias1,serveralias2,10.120.140.200"
IP_CertificateDirectory	The path to the destination directory in which to deploy the certificates on the computer.
IP_SourceDirectory	The path to the certificates on the USB drive or share from which to copy the certificates.
IP_DeployToCertificateStore	Switch to On.

Verification:

Open the Certificate Store and locate the MolDev_SMP_GxP... certificate.

Trusted Publishers\Certificates\

Manage-Configuration

Prerequisites: Run Manage-Certificates.ps1.

This script updates the config.json file to add information needed.

Mandatory Parameters: Manage-Configuration

Parameter	Description
IP_Mode	Run in Edit mode.
IP_ServerClient	Set to C (client) to update the client configuration.
IP_ConfigurationPath	The path to the config.json file that the Manage-System.ps1 script creates.
IP_LocalServiceAddress	In most circumstances this localhost. If you use CA certificates (not created with the installation) you might have to enter the full machine name.

Verification:

Use Windows Explorer to locate the config.json file in the following path:

```
C:\Users\\AppData\Roaming\MolecularDevices\GxPAdmin\Server\Configuration\config.json
```

Open the config.json file and confirm that appropriate fields are populated.

Manage-Services

Prerequisites: Run Manage-Configuration.ps1.

This script creates the services to run the SoftMax Pro GxP Software.

Mandatory Parameters: Manage-Services

Parameter	Description
IP_Mode	Run in Install mode.
IP_UserName	The username of the user who runs the services on the computer. Same as for the GxP Admin Software installation. (From utils.ps1. Default = gxpsvc).
IP_PassWord	The password for the service user. (Uses the IP_SAPassword.)
IP_WorkingDirectory	The path to where the executable is going to be run.
IP_Executable	The path to the executable that is going to run with AlwaysUp.

Verification:

Open the Services dialog and confirm that the following services have been created and are running:

- GXP_AU_ADCLIENT - Required when you intend to create users with the Windows Credentials login mode to use your company's Active Directory.
- GXP_AU_DATA
- GXP_AU_REPORT
- GXP_AU_WEB

Installation-Qualification

Optional: Generates a report.

Mandatory Parameters: Installation-Qualification

Parameter	Description
IP_Mode	Run in Record mode.
IP_Version	For the SoftMax Pro GxP Software set the IP_Version to SMP GXP>.
IP_ReportDirectory	The location where you want to place the report.

Verification:

Use Windows Explorer to locate the SMP GXP Report.pdf in the location you specify.

Example SoftMax Pro GxP Software Installation Scenario

Prerequisites: The Certificates folder created during the GxP Admin Software installation is accessible from the computer onto which you install the SoftMax Pro GxP Software.

Do the following on the computers onto which you install the SoftMax Pro GxP Software:

1. Start PowerShell and run as administrator.
2. Navigate to the Example scripts folder and enter the following command:
`.\ClientInstall.ps1 - Mode C - PathToClientCertificate (path to location of Certificates folder)`

Optional Parameter:

- - InstallOnServer = Turn On to install the SoftMax Pro GxP Software on the same computer onto which you installed the GxP Admin Software or turn Off to the SoftMax Pro GxP Software on computers that can access the GxP Admin Software computer.

Acceptable Exit Codes:

- Manage-User.ps1 = 10 unless the Service User SvcUserName is created. When you run the ClientInstall.ps1 with Mode I the Service User will be created.
 - Manage-System.ps1 = 0
 - Manage-Certificates.ps1 = 0
 - Manage-Configuration.ps1 = 340 The IP_CertificatePath does not exist and will be created when you run the ClientInstall.ps1 with Mode I.
 - Manage-Services.ps1 (GXP_AU_WEB) = 0
 - Manage-Services.ps1 (GXP_AU_DATA) = 0
3. Enter the following command:
`.\ClientInstall.ps1 - Mode I - PathToClientCertificate (path to location of Certificates folder)`
 4. Wait for the count downs to occur. The installation eventually completes.

Verification:

All Exit Codes = 0

Use Windows Explorer and confirm that a folder for the service user exists:

- C:/Users/gxpsvc (default name)

Open Windows Service dialog and check that the following services exist and are running:

- GXP_AU_DATA (default name)
- GXP_AU_WEB (default name)



displays on the computer desktop.



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