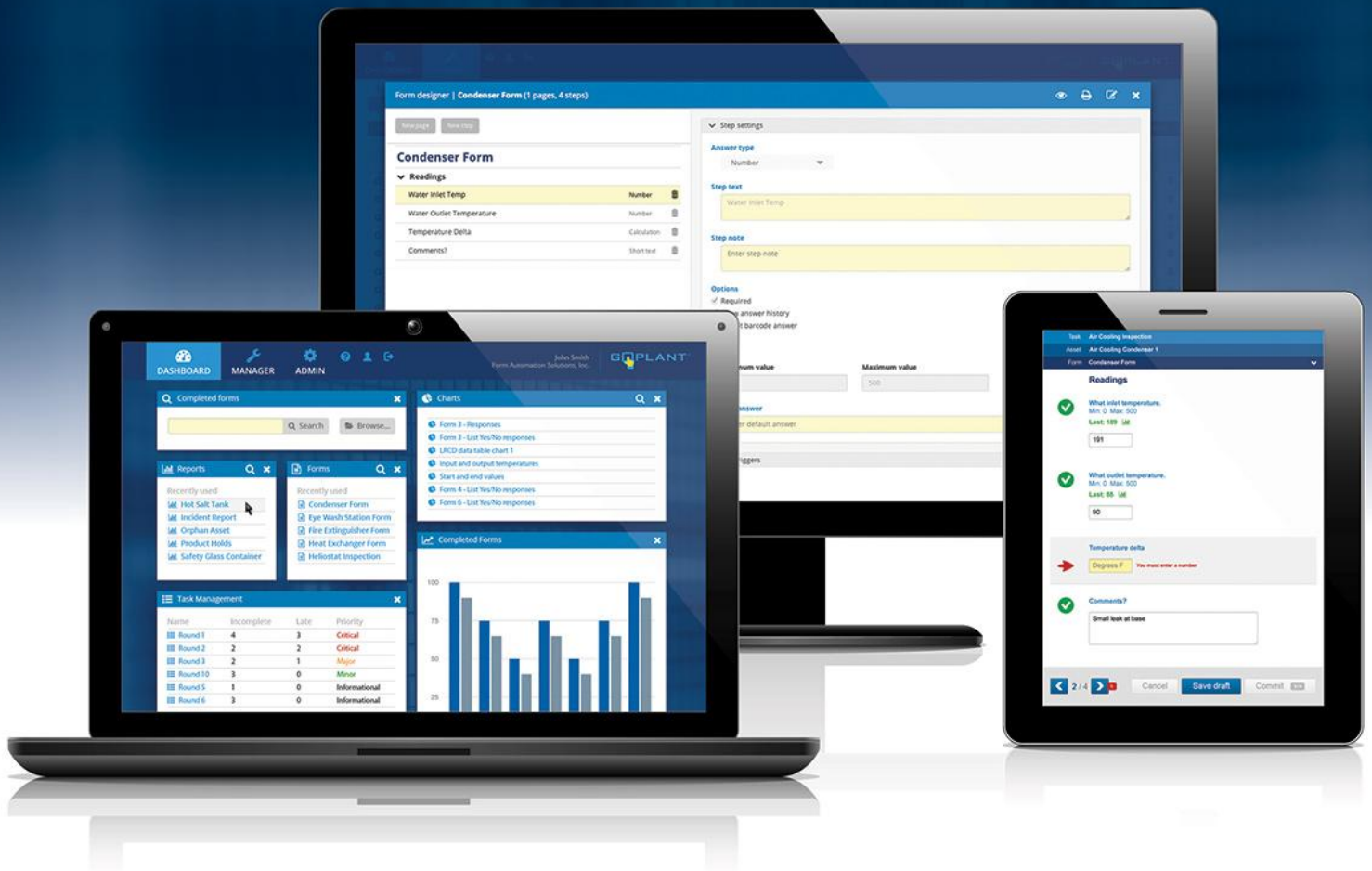


GoPlant Enterprise Edition Installation



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Conventions Used in this Manual

Click: Position the mouse over an item and press the mouse button.

Link, Hyperlink: Text displayed on your browser that will display a new GoPlant screen when you click on it. Links are usually displayed in blue, with an underline.

Hierarchy: GoPlant organizes resources into a “tree” whose branches and sub-branches (possibly many levels of sub-branches) are known as Storage groups. The resource “tree” is usually envisioned upside-down, with the trunk of the tree (the root group) at the top.

Screen, Page, Web Page: A screen displayed in your Web browser.

Select: Use the mouse to highlight an item or choose from a list of items.

Enterprise Edition Installation Prerequisites

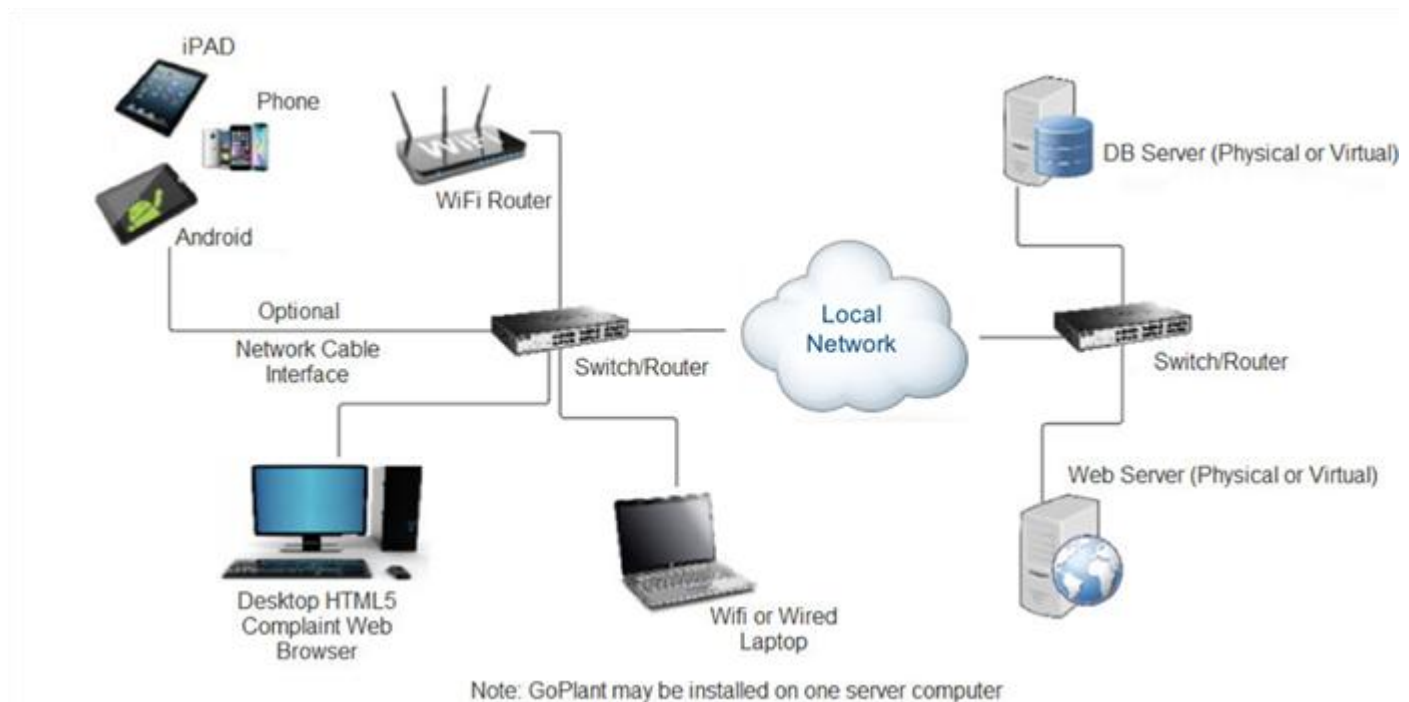
The server or virtual machine that will run the GoPlant application must meet the requirements outlined in a separate document – GoPlant Enterprise Requirements. Installation options allow you to host the GoPlant web site and database on one server or two.

Enterprise Edition Network Layout

GoPlant supports access from desktop browsers and mobile clients across both public and private networks. Examples of public networks include the Internet and cellular data networks. While installation options allow you to host the GoPlant web site and database on one server, we recommend a two-server installation to optimize database performance.

Only ports 80, 443 (for secure https://), and 1433 for the SQL database connection are required to be open on the web server. If a non-standard port is used on the SQL server for database connectivity this should be updated appropriately. The web site may also be used on a non-standard port if required, but the port identification will need to be added to the URL settings on the device upon Mobile Application installation. The IIS server is the only item that talks with the GoPlant database. Mobile devices and web browsers never attach to the SQL server directly.

A single database user may be configured for the IIS server to access the SQL database. This may also be a Domain account if AD is being used for authentication.



NOTE: Two servers are shown as the typical installation. GoPlant may also be installed on one server adequately sized to handle both the Database and IIS server.

Pre-installation Information

GoPlant Installation and Configuration Pre-Installation Checklist

To set up a GoPlant system, you will need to perform the following steps:

1. Obtain the GoPlant software. Place the files in an easily accessible location by both the IIS server and SQL server.
2. If you have not done so already, install Microsoft SQL Server on the Database server machine. Please refer to the Microsoft installation information to ensure proper installation. The Database server may or may not be different from the Web server.
3. Install or configure the Database server or another server with Internet Information Services (IIS). Please refer to the Microsoft installation information to ensure proper installation.
4. Have your GoPlant Serial Number handy. This information will be in the USB drive shipped to you or the License certificate. The Serial Number is used to create a Key Code that is sent to goplant.techsupport@skf.com to generate a License Key specific to your servers.

MS SQL Database Installation Required Settings

1. MS SQL database should be set up with Mixed Authentication mode if you plan on using SQL authentication for database access.
2. SQL server installation: Server Configuration – Collation - Database Engine Collation page should be set to “SQL_Latin1_General_CP1_CI_AS”. This is the North American installation default and cannot be changed.
3. MS SQL networking TCP/IP protocol connections turned on via 1433 or other designated port. TCP/IP protocol connection is used for IIS server to connect to the MS SQL GoPlant database.

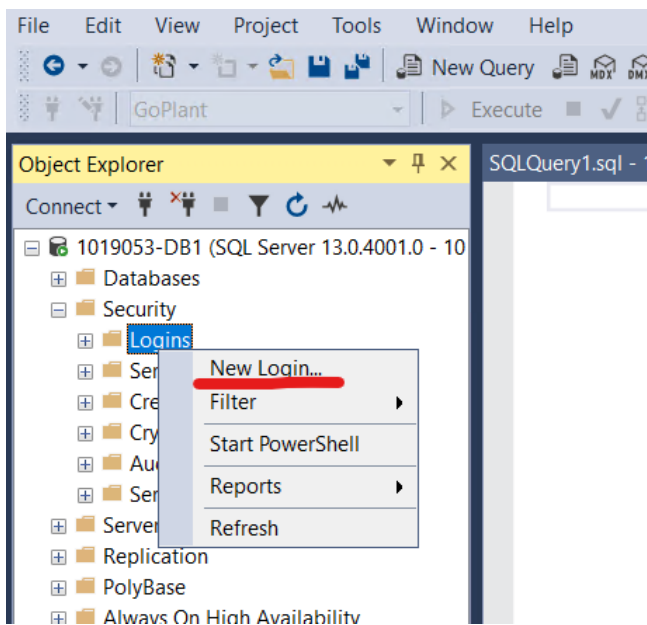
Microsoft IIS Server Installation Required Settings

1. Components required in the Web Server (IIS) Roles and Features Wizard (must be checked and installed):
 - a. Web Server - Common HTTP Features – HTTP Redirection
 - b. Web Server – Performance – Dynamic Content Compression

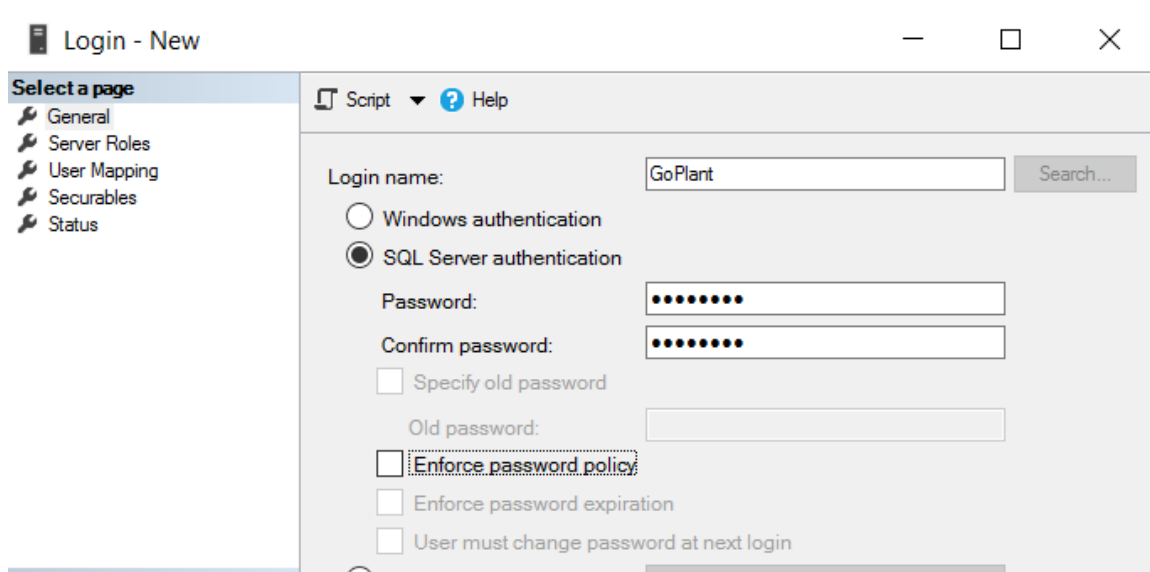
- c. Web Server – Security – Basic Authentication
 - d. Web Server – Security – URL Authentication
 - e. Web Server – Security - Windows Authentication
 - f. Application Development - .NET Extensibility 4.8 or greater
 - g. Application Development – ASP.NET 4.8 or greater
 - h. Application Development – ISAPI Extensions
 - i. Application Development – ISAPI Filters
- 2. ASP.NET 4.8 or greater must be registered and available to IIS installations.
 - 3. The GoPlant configuration will add the ExtensionlessUrlHandler-Integrated-4.0 to the Handler Mappings. This cannot be blocked by a system IIS setting.
 - 4. If IIS Request filtering is enabled, then the following HTTP Verbs must be allowed: GET, POST, DELETE, and OPTIONS.
 - 5. CORS must be enabled or installed on the IIS server.
 - 6. The GoPlant website API must have the following settings for HTTP Response Headers. The values and items listed are defaults but cannot be changed by local security policy or IIS settings:
 - a. Access-Control-Allow-Methods values GET, PUT, POST, DELETE, HEAD, OPTIONS inherited Local.
 - b. Access-Control-Allow-Origin value * inherited Local.
 - c. Access-Control-Allow-Headers values Origin, X-Requested-With, Content-Type, Accept, UUID inherited Local.

Database Installation Procedure

1. Log into the database server machine as a Windows Administrator (see Chapter 1, *Installing GoPlant*).
2. Open Microsoft SQL Server Management Studio and login with an account that has permissions to own and create databases.
3. These instructions include creating a GoPlant login account on SQL for use by the IIS web site. If you are using a Domain or other security account, then creating this username is unnecessary. However, it will be important to substitute your user account for all “GoPlant” user account use in this documentation.
4. Expand the Security Folder and Right-Click on the “Logins” folder. Choose ‘New Login...’



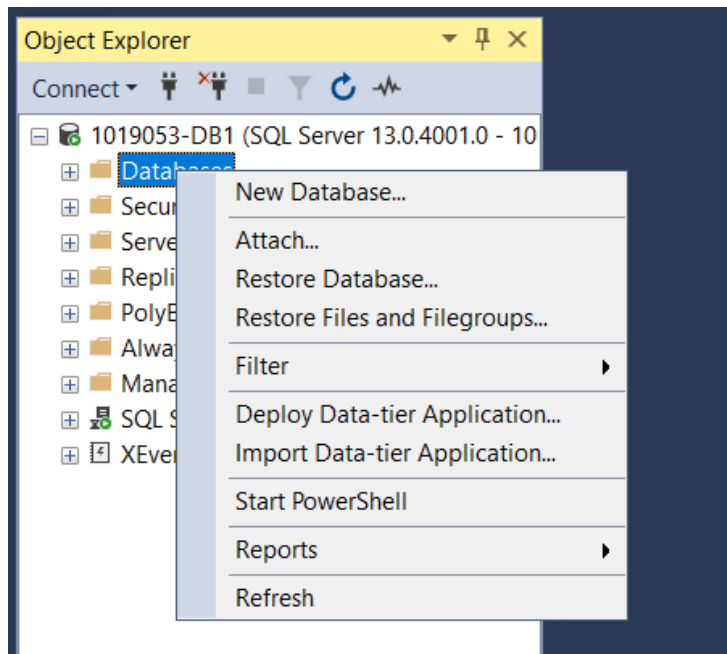
5. Enter 'GoPlant' for the Login Name. Choose the SQL Server Authentication radio button. Uncheck all three boxes for the Password settings as shown:



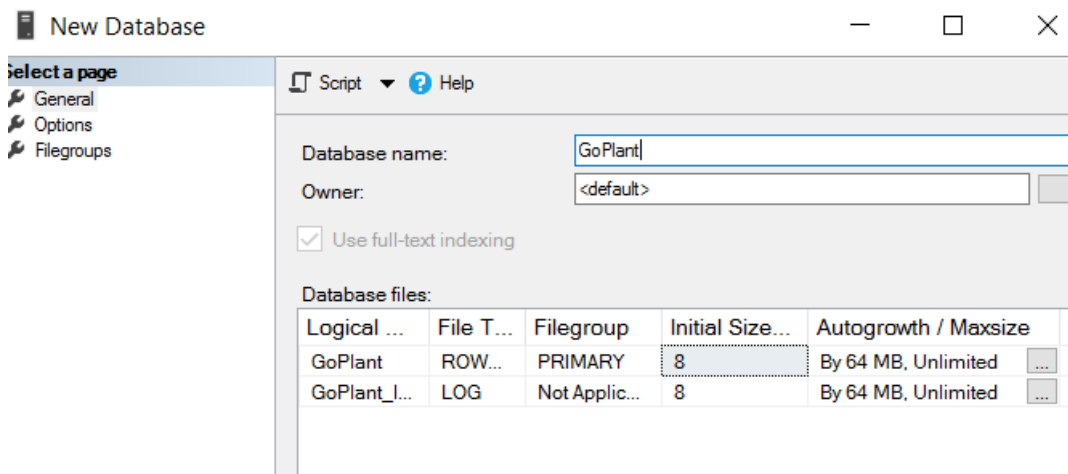
The screenshot shows the 'Login - New' dialog box. On the left, a tree view shows 'Select a page' with options: General, Server Roles, User Mapping, Securables, and Status. The main area has a 'Script' dropdown and a 'Help' icon. The 'Login name' field is filled with 'GoPlant'. Below it, 'Windows authentication' is unselected and 'SQL Server authentication' is selected. There are three password fields: 'Password', 'Confirm password', and 'Old password', all of which are empty. Below these fields are three checkboxes: 'Specify old password' (unchecked), 'Enforce password policy' (unchecked), 'Enforce password expiration' (unchecked), and 'User must change password at next login' (unchecked).

5. Enter the password "P@ssw0rd" for this user. If you wish to use a different password (not this default), please update it and note for later use throughout the instruction.
6. Click the 'OK' button to accept the new user. If your security settings do not allow the SQL Server user login rights, then use a Domain account or another account that may be used for IIS server connection to the database. In the rest of these instructions, use that username instead of 'GoPlant' user.

7. Right-click on the 'Databases' folder and select "New Database...".

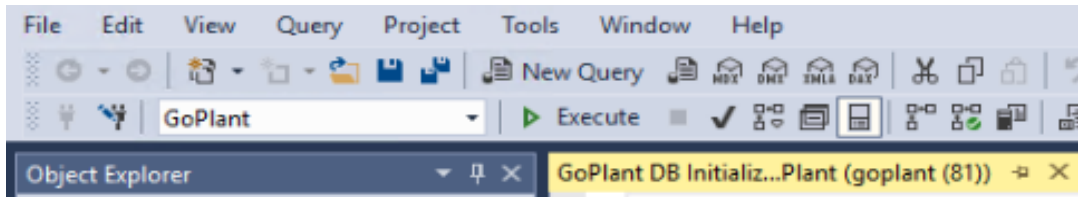


8. Enter the Database name - GoPlant. Leave the defaults for all other settings unless instructed by a database administrator or IT person.

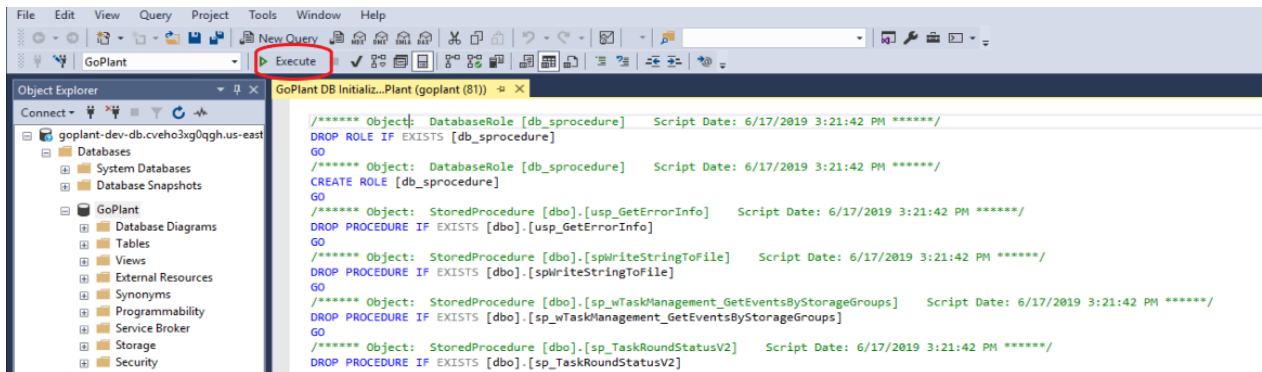


9. Click on the OK button to create the database.
10. Locate the new GoPlant database in the navigation pane on the left-hand side.
11. Right-click on the database and choose "New Query". This will select the proper database and prepare for loading the GoPlant SQL file scripts.

12. From the menu choose the open folder icon. Locate and open the GoPlant database initialization script, GoPlant DB Initialize.sql, in the installation folder.



13. Run the database initialization script with the 'Execute' button in the menu.

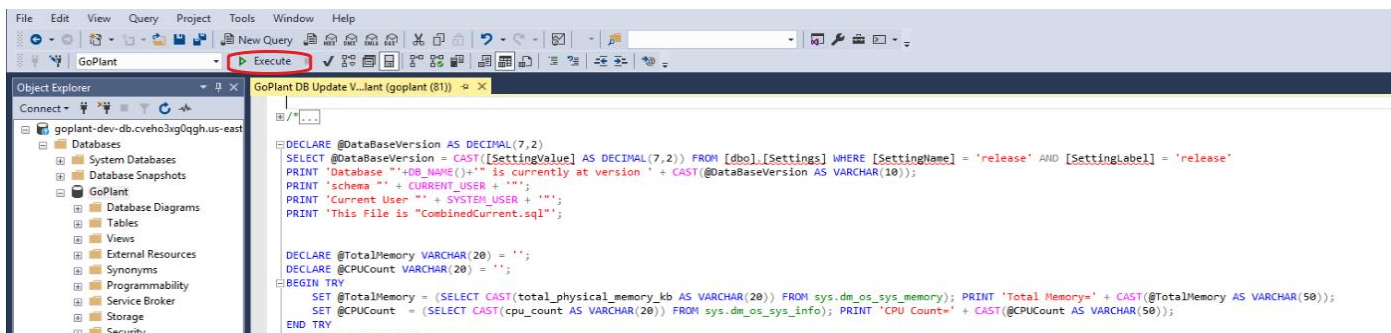


Note that if you are using a database Login Name other than GoPlant, this script may report errors around configuring the GoPlant user. Those errors may safely be ignored.

14. From the menu choose the open folder icon. Locate and open the GoPlant database update script, GoPlant DB Update Offline Version XXXX.Y.sql, in the installation folder.



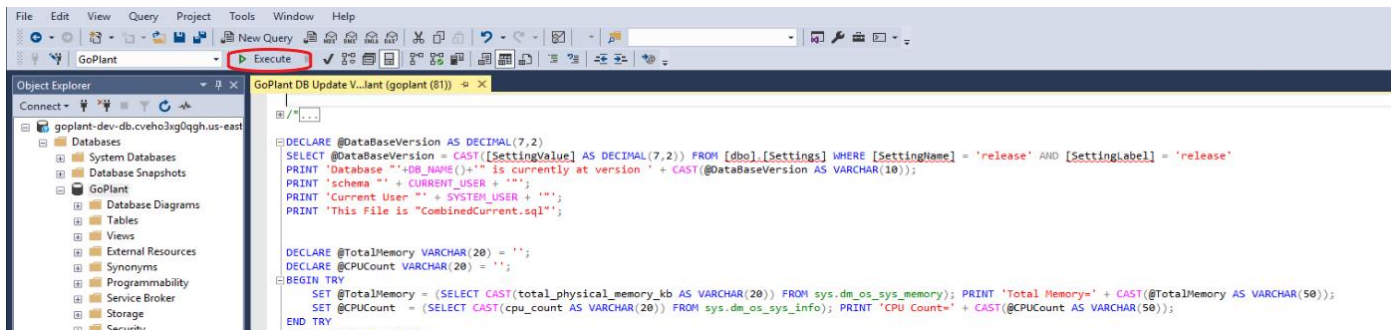
15. Run the database update script with the 'Execute' button in the menu.



16. From the menu choose the open folder icon. Locate and open the GoPlant database update script, GoPlant DB Update Online Version XXXX.Y.sql, in the installation folder.



17. Run the database update script with the 'Execute' button in the menu.



18. This completes the database set up. Please continue to the "Web Site Installation Procedure"

Web Site Installation Procedure

1. Log into the GoPlant IIS Web server with account that has permissions to modify the web site files as well as start/stop the Microsoft IIS server instance.
2. Locate the C:\inetpub and create a new folder named "GoPlant" for the web site folder. Note that this folder may be located anywhere that the IIS server has security permissions according to your company policy. If this default location is not used, please adjust the instructions accordingly and document your installation changes to this manual.
3. Locate the 'GoPlant Website' folder in the installation files and copy the zip file to a location where it can be unzipped.
4. Once unzipped, copy all the web site sub folders and files into the C:\inetpub\GoPlant web site folder.
5. Within the web site folder, locate the API sub folder and the ..\API\web.config file.
6. Locate the <connectionStrings> section of the new web.config XML file. Your original premise installation contains specific Data Source, Initial Catalog, User ID, and Password data. These four (4) data items need to be updated in the new file with the same values from your original file.

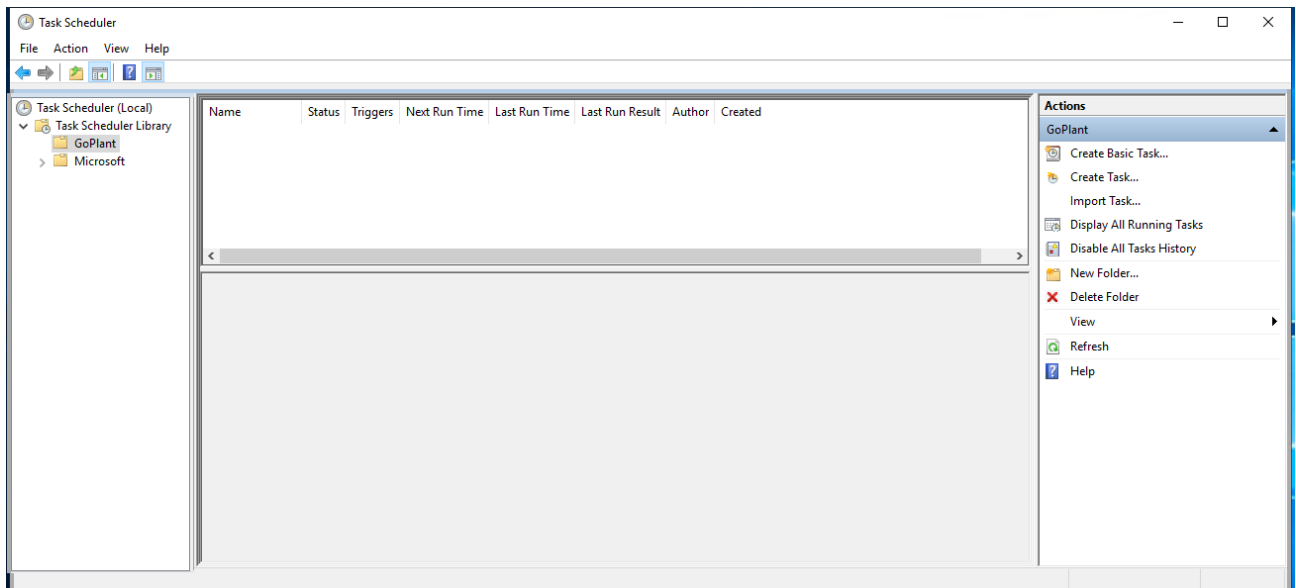
7. The new web.config XML file contains placeholder values to aid in text replacement.
DATASOURCE can be used in a find and replace command (<ctrl> - h keyboard shortcut in NotePad) to find and replace with the original data source value from the original web.config file.
8. Values to replace are: **DATASOURCE**, **DATABASENAME**, **USERID**, **PASSWORD**
9. The values in step #8 are all capitals with two "***" at the beginning and the end to avoid confusion with any other strings in the web.config file. The "***" should be replaced as well – replace the entire "***XXXXXXXX**" string.
10. Once all four (4) placeholder value items are replaced in the new web.config XML file, please save this file. (There should be no "***" characters in the file, only the proper string values for the file)
11. Open the Microsoft IIS Manager UI
12. Expand the 'Sites' folder in the left-hand tree view. Right-click on the 'Sites' folder and choose 'Add Web Site...'.
13. Enter all required information for your installation. The site name is "GoPlant" in the create web site pop-up window. Locate the folder created above for the web site and place that path in the 'Physical path:'. Bind the website to "All Unassigned" IP address or the address required for your installation.
14. Expand the GoPlant web site folder now listed under the 'Sites' in the left-hand tree view. Right-click on the "api" folder and choose 'Convert to Application'. Leave all settings as default.
15. If you plan on creating IIS server certificates for use with https://, please follow external guides or instructions on completing this task. You can then also bind the website to the https:// port and choose the proper SSL certificate.
16. This completes the file updates and configuration changes required for the web site.
17. Complete all installation steps before starting the web site.
18. Please continue to the "Installation of cURL on the IIS Server".

Installation of cURL on the IIS Server

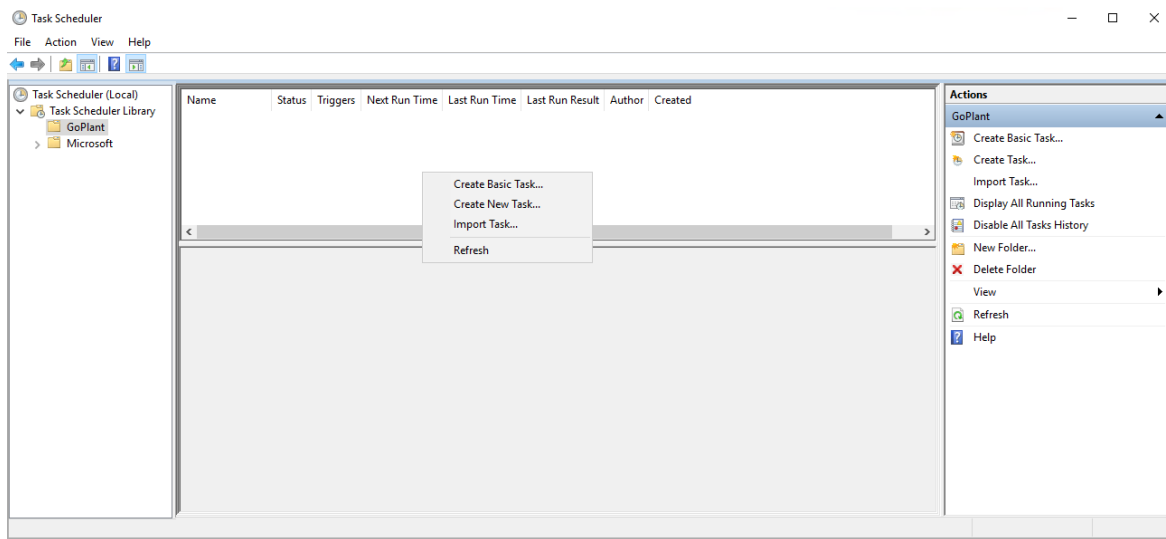
1. Login to the web server machine as a Windows Administrator.
2. Under the 'GoPlant Scheduled Tasks' folder locate the 'cURL for Windows' folder from the installation files to the server.
3. Select the installer based upon either a 32-bit or 64-bit server machine Operating System.
4. Depending upon your server, you may have to install the Microsoft Visual C++ 2015 Redistributable.
5. Check the box "I accept the terms in the License Agreement".
6. Click on the 'Install' button.
7. After cURL software installation, please continue to "Scheduled Task Installation".

Scheduled Task Installation

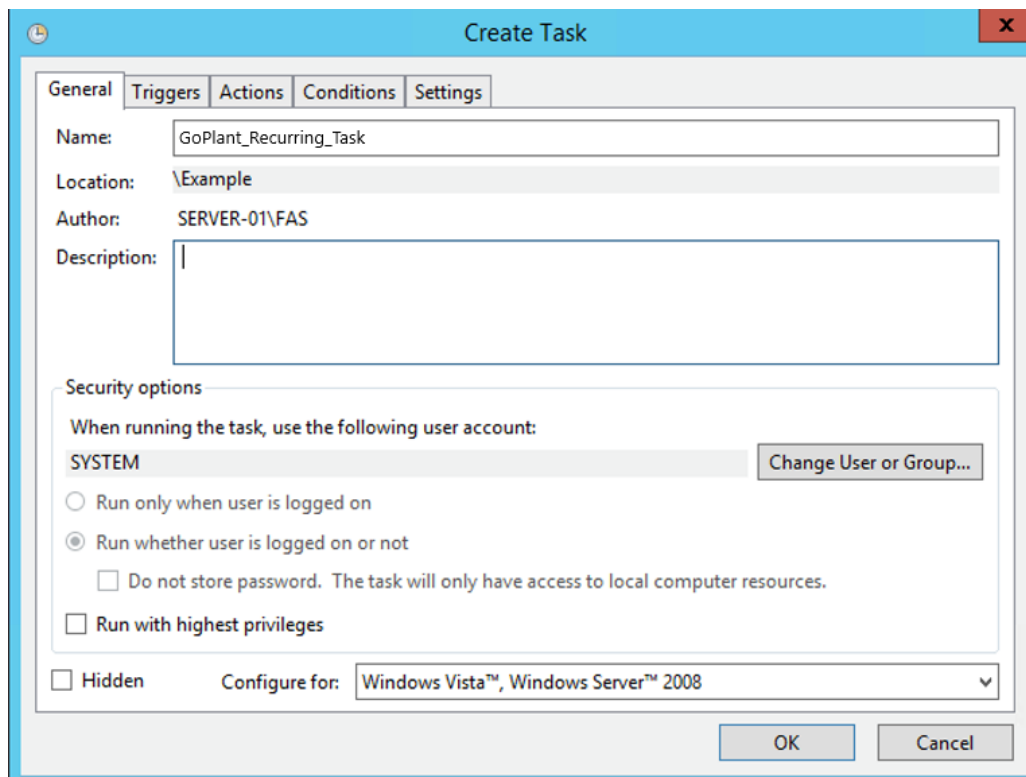
1. Before creating the scheduled task in this section, cURL software must be installed.
2. Obtain the GoPlant Task XML (*.xml) file from the installation files.
3. Log into the GoPlant IIS Web server with account that has permissions to run and modify the Windows Task Scheduler. A link is in the Administration Tools of the server or can be found in the Server Manager.
4. Open the Task Scheduler.
5. Create a folder for GoPlant for the GoPlant scheduled task. Name the folder GoPlant in order to easily find it later. Select the folder to display the tasks in the center pane.



- Right-Click in the center pane folder listing and choose 'Import Task...' from the pop-up menu.



- Locate the file GoPlant_Recurring_Task.xml, and once highlighted click 'Open' button. The Create Task window will open.

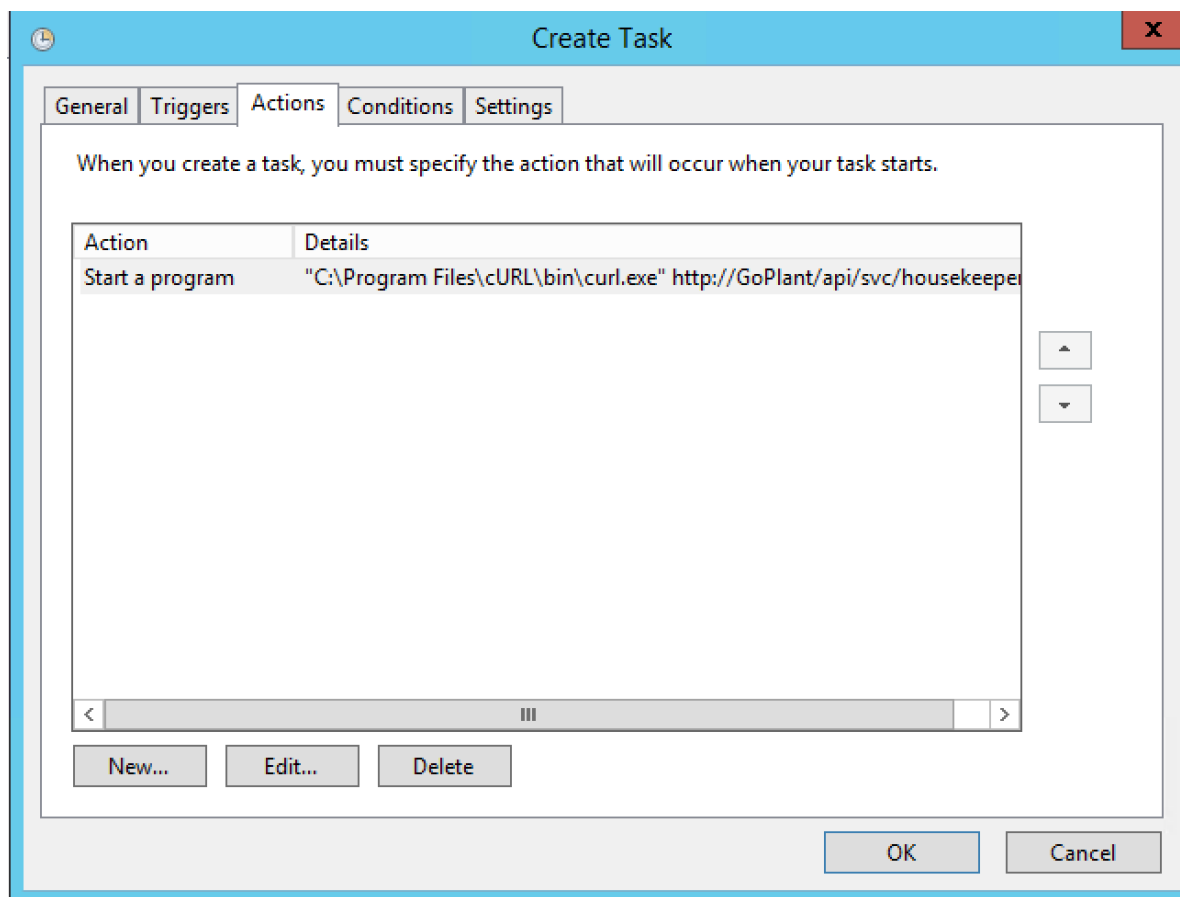


- Edit the user account if required. The Security account running the task should have access to the

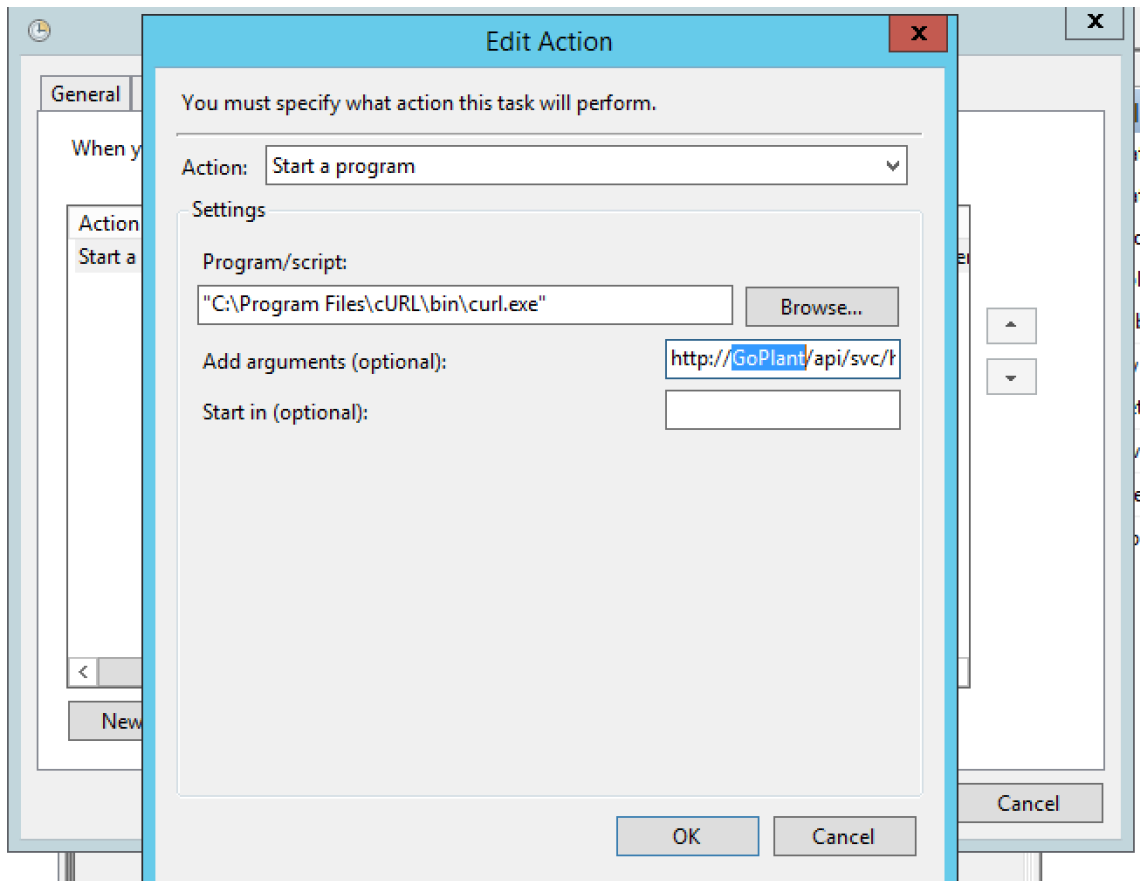
computer and be able to execute web services and the curl.exe executable described in the task.

NOTE: If you use a named account, you will be required to update the password any time the account security policy requires it to be changed.

9. Click on the 'Actions' tab. This will display the command line criteria for executing the GoPlant web service API.



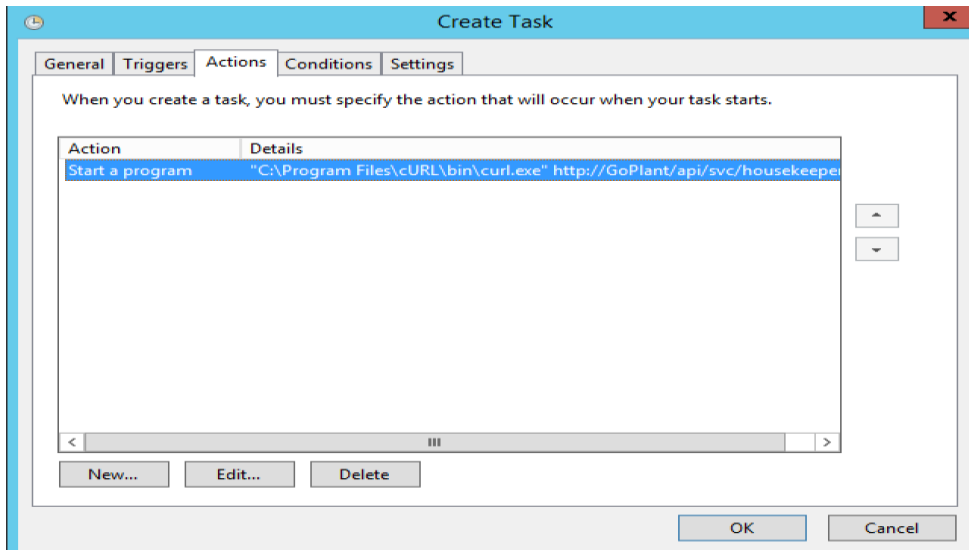
10. Double-click on the 'Start a program' entry. This will bring up the "Edit Action" window shown below. The highlighted portion is the only changes required for your specific server. Edit the beginning of the command to correspond with your internal GoPlant web site. Command can be http:// or https://, followed by the name of your GoPlant web site – "GoPlant" is used in the example below. Do not modify anything beyond this as it specifies the API call. Next, verify that the "Program/script:" string matches the full path to the curl.exe program as it is installed on your server.



****NOTE:** If the URL address for your GoPlant installation is changed the scheduled task must be updated as well.

****NOTE:** If you specify https://, you may also need to pass the -k argument to cURL to ignore certificate checking.

11. Click 'OK' to close the "Edit Action" window. Click 'OK' to close and create the Task. This completes the creation of the GoPlant Windows scheduled task.



Logging Configuration

GoPlant writes two different categories of log files to the file system on the IIS server. Debug logs are used by SKF support to help root cause issues encountered by customers. SKF support will often request these files when customers submit support tickets. Audit logs are used by customers and support to track any modifications made to GoPlant user accounts.

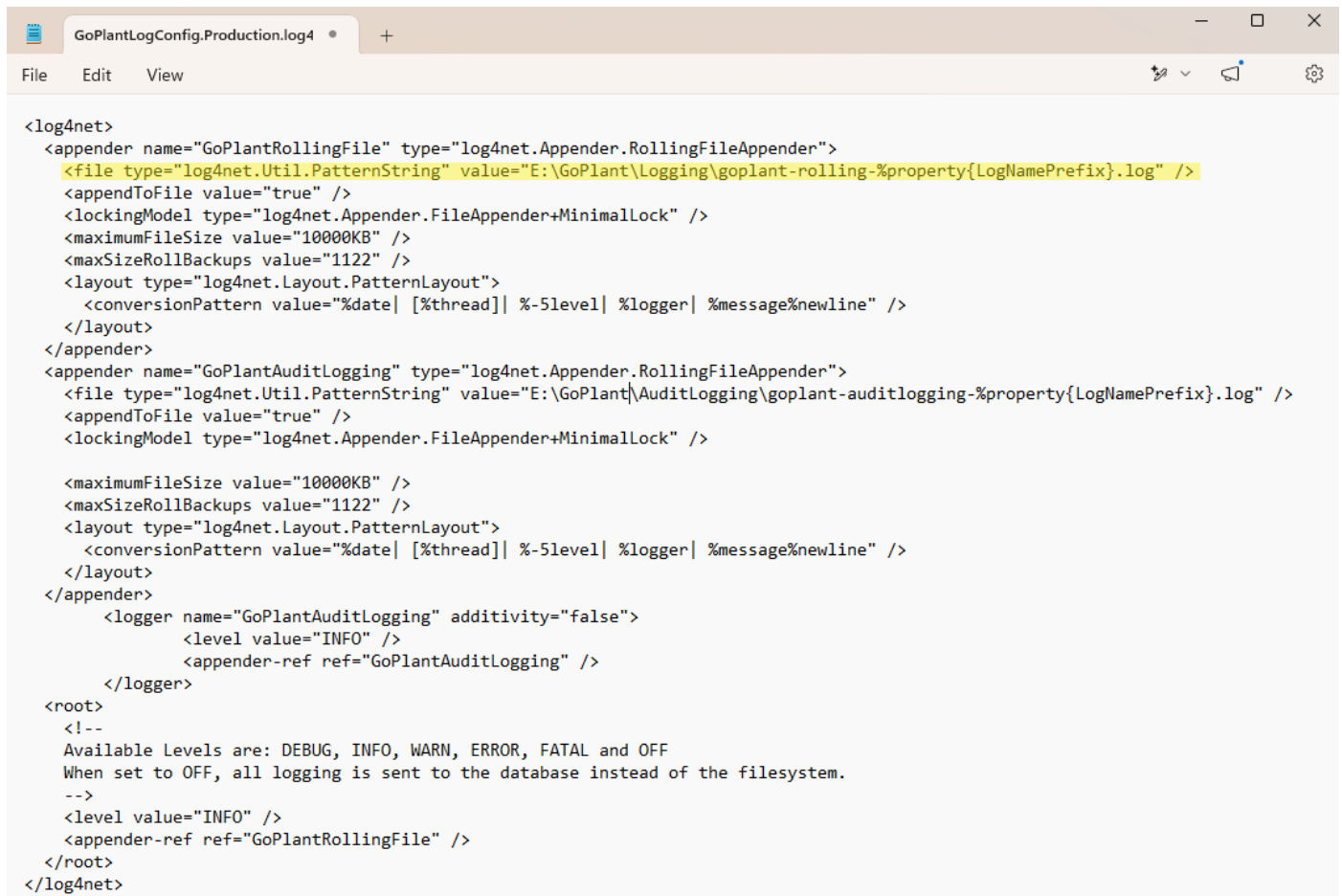
By default, GoPlant logs are stored in a sub-folder of the GoPlant website. To better manage storage and prevent the logs from potentially filling the web server partition, it is strongly recommended that customers direct GoPlant logging to a different partition on their server than the default. Redirecting logging to a different partition prevents log files from potentially filling the web server partition and impacting the operation of GoPlant.

The location and size of the log files is controlled via the file

D:\websites\GoPlant\api\GoPlantLogConfig.Production.log4net. Note that the path will be different if your website root folder is not **D:\websites\GoPlant**. Follow these steps to update where the files are stored and to control the amount of data stored.

1. Edit **GoPlantLogConfig.Production.log4net**.
2. There are two XML **<appender>** sections in the file. The first section, **<GoPlantRollingFile>**, controls the location and size of the debug logs. The second section, **<GoPlantAuditLogging>**, controls the location and size of the audit logs.
3. To update the location of the debug logs, update the **<file>** element of the first **<appender>** section as

shown below.



```
<log4net>
  <appender name="GoPlantRollingFile" type="log4net.Appender.RollingFileAppender">
    <file type="log4net.Util.PatternString" value="E:\GoPlant\Logging\goplant-rolling-%property{LogNamePrefix}.log" />
    <appendToFile value="true" />
    <lockingModel type="log4net.Appender.FileAppender+MinimalLock" />
    <maximumFileSize value="10000KB" />
    <maxSizeRollBackups value="1122" />
    <layout type="log4net.Layout.PatternLayout">
      <conversionPattern value="%date| [%thread]| %-5level| %logger| %message%newline" />
    </layout>
  </appender>
  <appender name="GoPlantAuditLogging" type="log4net.Appender.RollingFileAppender">
    <file type="log4net.Util.PatternString" value="E:\GoPlant\AuditLogging\goplant-auditlogging-%property{LogNamePrefix}.log" />
    <appendToFile value="true" />
    <lockingModel type="log4net.Appender.FileAppender+MinimalLock" />

    <maximumFileSize value="10000KB" />
    <maxSizeRollBackups value="1122" />
    <layout type="log4net.Layout.PatternLayout">
      <conversionPattern value="%date| [%thread]| %-5level| %logger| %message%newline" />
    </layout>
  </appender>
  <logger name="GoPlantAuditLogging" additivity="false">
    <level value="INFO" />
    <appender-ref ref="GoPlantAuditLogging" />
  </logger>
</root>
<!--
Available Levels are: DEBUG, INFO, WARN, ERROR, FATAL and OFF
When set to OFF, all logging is sent to the database instead of the filesystem.
-->
<level value="INFO" />
<appender-ref ref="GoPlantRollingFile" />
</root>
</log4net>
```

4. In the example, logging is directed to a folder on the E: partition of the system. The `%property{LogNamePrefix}` is automatically set to the name of the website. So, if your website is named GoPlant, logs will be written to the folder 'E:\GoPlant\Log\goplant-rolling-GoPlant.log'.
5. Similarly, to update the location of the audit logs, update the **<file>** element of the second **<appender>** section as shown below.

```

GoPlantLogConfig.Production.log4
+
File Edit View
<log4net>
  <appender name="GoPlantRollingFile" type="log4net.Appender.RollingFileAppender">
    <file type="log4net.Util.PatternString" value="E:\GoPlant\Logging\goplant-rolling-%property{LogNamePrefix}.log" />
    <appendToFile value="true" />
    <lockingModel type="log4net.Appender.FileAppender+MinimalLock" />
    <maximumFileSize value="10000KB" />
    <maxSizeRollBackups value="1122" />
    <layout type="log4net.Layout.PatternLayout">
      <conversionPattern value="%date| [%thread]| %-5level| %logger| %message%newline" />
    </layout>
  </appender>
  <appender name="GoPlantAuditLogging" type="log4net.Appender.RollingFileAppender">
    <file type="log4net.Util.PatternString" value="E:\GoPlant\AuditLogging\goplant-auditlogging-%property{LogNamePrefix}.log" />
    <appendToFile value="true" />
    <lockingModel type="log4net.Appender.FileAppender+MinimalLock" />

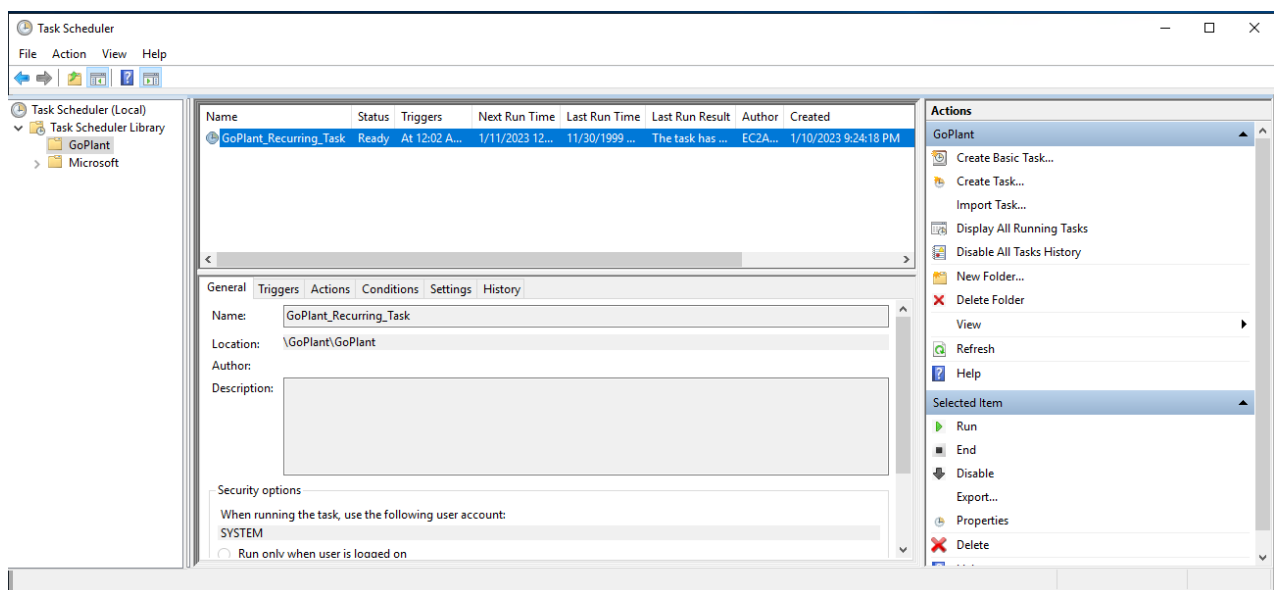
    <maximumFileSize value="10000KB" />
    <maxSizeRollBackups value="1122" />
    <layout type="log4net.Layout.PatternLayout">
      <conversionPattern value="%date| [%thread]| %-5level| %logger| %message%newline" />
    </layout>
  </appender>
  <logger name="GoPlantAuditLogging" additivity="false">
    <level value="INFO" />
    <appender-ref ref="GoPlantAuditLogging" />
  </logger>
</log4net>
<!--
Available Levels are: DEBUG, INFO, WARN, ERROR, FATAL and OFF
When set to OFF, all logging is sent to the database instead of the filesystem.
-->
<level value="INFO" />
<appender-ref ref="GoPlantRollingFile" />
</root>
</log4net>

```

6. Please ensure that the app pool identity has read and write access to the logging folder that you configure and all its subfolders. These folders will be automatically created when the website starts up.
7. By default, all GoPlant log files have a maximum size of 10MB. Once a log file reaches the size limit, a new file is created. This file size is controlled by the **<maximumFileSize>** element of each **<appender>**.
8. The log files are automatically deleted once **<maxSizeRollBackups>** is reached. By default, that value is set to 1122 files. You may adjust that number to manage the space required for logging. SKF recommends keeping two weeks to one month of debug log files available for issue analysis. Audit logging retention policies should match those of your organization.

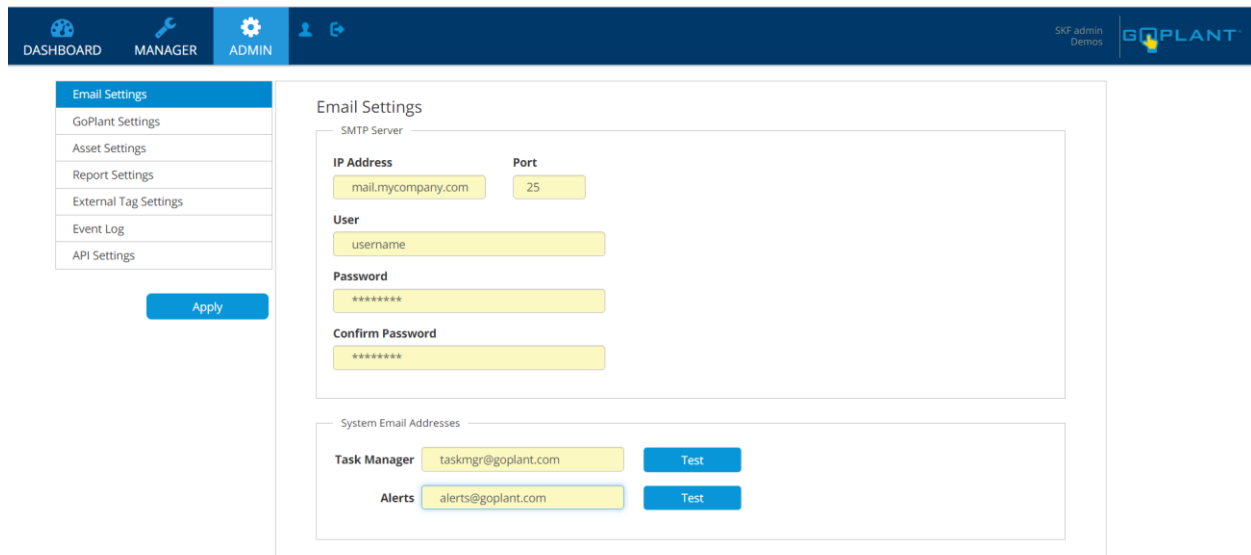
Post Installation Tasks

1. Log into the GoPlant IIS Web server with an account that has permissions to run and modify the Windows Task Scheduler.
2. Locate and Open the Microsoft IIS Manager User Interface (UI).
3. Browse to the IIS Server icon in the left-hand tree view.
4. Start the GoPlant web site.
5. Open the Windows Task Scheduler. A link is in the Administration Tools of the server or can be found in the Server Manager.
6. Locate the folder for GoPlant (if created earlier) or determine the location of the GoPlant scheduled task. Select the folder to display the task in the center pane. Select the task listed for GoPlant, and then right-click and enable it. Ensure that the status is ENABLED for the GoPlant task.



7. Use a web browser to login to GoPlant. You may use the “starthere” username with “pass1” as the password. This user account should be modified and replaced with your own administrator type account.

8. Navigate to the 'ADMIN' area



ADMIN

Email Settings

GoPlant Settings

Asset Settings

Report Settings

External Tag Settings

Event Log

API Settings

Apply

Email Settings

SMTP Server

IP Address: mail.mycompany.com

Port: 25

User: username

Password: *****

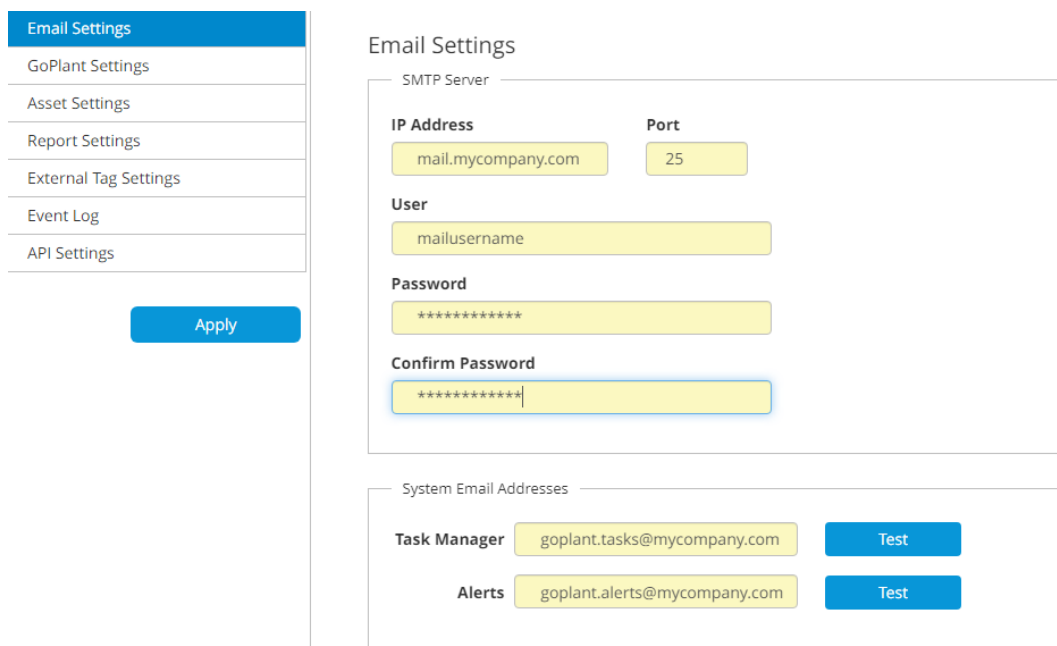
Confirm Password: *****

System Email Addresses

Task Manager: taskmgr@goplant.com **Test**

Alerts: alerts@goplant.com **Test**

9. The first set up item is email settings. Please enter your email server DNS name or IP address, port, and username/password information if it is required to relay email. Update the System Email Addresses so they match your company's domain. Your IT department may need to whitelist the GoPlant server as a mail relay. Use the Test buttons to ensure email can be sent from the server.



Email Settings

GoPlant Settings

Asset Settings

Report Settings

External Tag Settings

Event Log

API Settings

Apply

Email Settings

SMTP Server

IP Address: mail.mycompany.com

Port: 25

User: mailusername

Password: *****

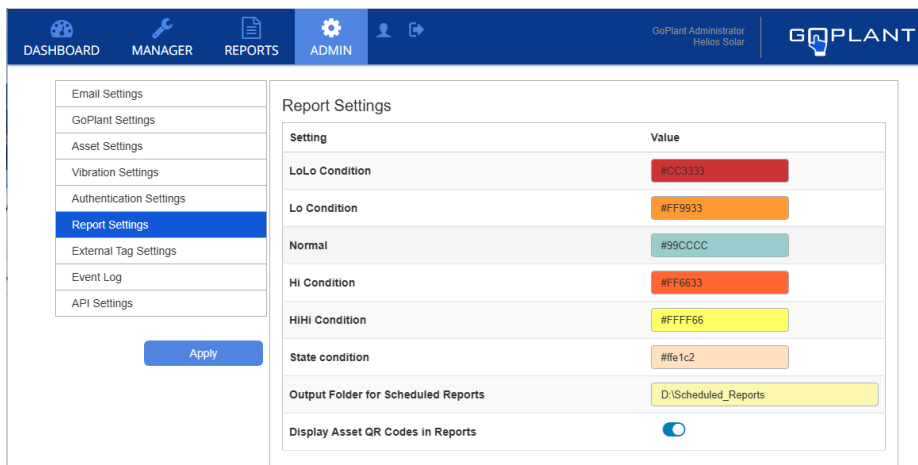
Confirm Password: *****

System Email Addresses

Task Manager: goplant.tasks@mycompany.com **Test**

Alerts: goplant.alerts@mycompany.com **Test**

- The second set up item is Report Settings. Please update the “Output Folder for Scheduled Reports” entry to a folder on your server where you would like GoPlant’s scheduled reports to be saved.



Setting	Value
LoLo Condition	#CC3333
Lo Condition	#FF9933
Normal	#99CCCC
Hi Condition	#FF6633
HiHi Condition	#FFFF66
State condition	#ffe1c2
Output Folder for Scheduled Reports	D:\Scheduled_Reports
Display Asset QR Codes in Reports	☒

Licensing GoPlant

GoPlant will run on a grace period for three days without being licensed. To ensure that you do not experience an outage, please begin the license process immediately after installation. You will need to have the license key provided by SKF to complete this process. If you do not have a license key, please contact goplant.techsupport@skf.com.

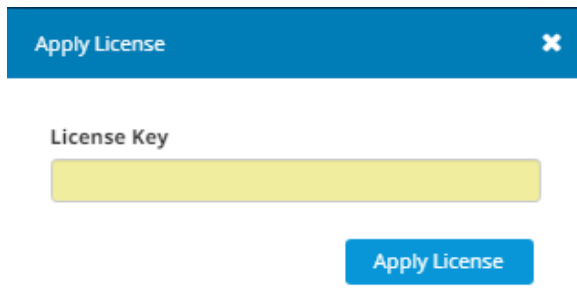
1. Open an HTML 5 compatible Web Browser.
2. Type your **GoPlant URL** in the address bar (example: <http://goplant>). The **Login** page appears.



3. Log into GoPlant, then click  at the top right-hand portion of the page. The **About GoPlant** window opens. (Your version will display; the image below is simply an example)



4. Click **Apply License** button.
5. Enter the **License Key** sent from SKF and click **Apply License**.



6. Licensing is now complete.

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