

# Email and SMS

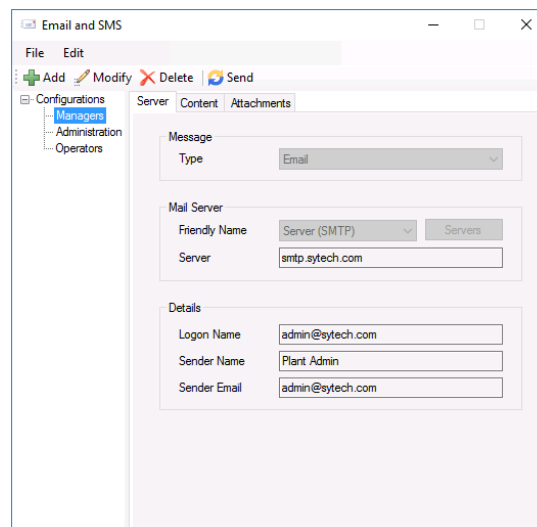
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## Overview

The **Email and SMS** application is used for the sending of Email and SMS (text messages through Simple Messaging Service) as well as MMS (text messages through the Multimedia Messaging Service), automatically or on-demand. A common use of the application is to email process reports to various departments.

The application supports SMTP connectivity through mail platforms like Gmail, Yahoo, Office 365, and others.

The main window of the application is opened from the **Project Explorer** by selecting the **Tools Tab, Application, Email and SMS**.



The display consists of menu options, a left panel of configurations and a right panel showing the content of the selected configuration.

To edit an existing configuration, highlight it on the list and click **Modify**. If the configuration name is edited, then the settings will be saved to this new name.

To delete an existing configuration, highlight it on the list and click **Delete**.

A **Configuration** requires information on the email server and also email addresses of recipients. This information is setup from the **Edit, Servers** and **Edit, Contacts** menu options. Once setup, the configuration is based on this information

The steps required to implement **Email and SMS** are:

- Setup the Email Server and Contacts
- Design a Configuration
- Deploy a Configuration for automated emails

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## Configure Email Server and Contacts

### Configure the Email Server

Select **Edit, Servers** to show a grid of the servers currently setup. The server in the top row is treated as the default server when designing configurations.

If a new server is required, click the pushbutton (...) in the **Friendly Name** column.

Enter a **Friendly Name** to identify the server. The **Server (SMTP)** is the name of the SMTP (outgoing) mail server that will be used along with the **Port Number**. If the mail server uses the default port (port 25), check **Use Default**. Otherwise, specify the port number.

If the mail server is a Microsoft Exchange Server, the Server (SMTP) setting is the IP address of the Exchange Server.

Set **Encryption** to *None* if the mail server has no encryption, otherwise select *SSL* or *STARTTLS* depending on the mail server requirement.

The **Logon Information** may or may not be required depending on the mail server. Enter a **Name** which, depending on the server, may be a name or a full e-mail address. Enter the **Password** associated with the **Name** specified.

The **Sender Information** is details about who is sending the configuration. Enter a friendly **Name** (this is shown to the recipient as the sender) and a valid **E-mail** address.

Please note that some mail servers (like Office 365) may ignore the **Name** specified under **Sender Information** when sending the email.

A test email using the settings specified can be sent by clicking the **Send Test E-mail**. A message is sent to the address specified in the **E-mail** setting in the **Sender Information** section.

### Setup Providers

When sending a text message, the mobile provider of the recipient must be specified. The most common mobile providers are provided by default during installation. However, if the mobile provider required is not listed or needs to be updated, this can be done from the **Designer**.

Select **Edit, Providers** to access the list.

Name	SMS E-mail	MMS E-mail
AT&T	bt.att.net	mms.att.net
Boost Mobile	myboostmobile.com	myboostmobile.com
Consumer Cellular	mailmymobile.net	mailmymobile.net
Cricket	sms.cricketwireless.com	mms.cricketwireless.com
C-Spire	cspire1.com	cspire1.com
Metro PCS	mymetropcs.com	mymetropcs.com
Republic Wireless	text.republicwireless.com	text.republicwireless.com
Sprint	messaging.sprintpcs.com	pm.sprint.com
T-Mobile	tmomail.net	tmpmail.net
Tracfone	mmst5.tracfone.com	mmst5.tracfone.com
US Cellular	email.uscc.net	mms.uscc.net
Verizon	vttext.com	vzwpix.com
Virgin Mobile	vmobl.com	vmpix.com
Xfinity Mobile	vttext.com	mypixmessages.com
* add provider		

A new provider can be configured by selecting the bottom row (*add provider*). An existing provider can be modified by double clicking any column in the row. Each **Provider** must be specified with the following:

**Name**

The display name used to select the provider for each contact configured.

**SMS E-mail**

The e-mail extension to send text messages for the provider using the Simple Messaging Service protocol. This information should be supplied by the mobile provider.

**MMS E-mail**

The e-mail extension to send text messages for the provider using the Multimedia Messaging Service protocol. This information should be supplied by the mobile provider.

**Setup Email Contacts**

Select **Edit, Contacts** to show a grid of the contacts currently setup. These contacts are displayed during the setup of a configuration.

If a new contact is required, select an empty row and enter the **Friendly Name, Email, Phone** and phone **Provider**.

Friendly Name	Email	Phone	Provider
Bob Evans	be@eytech.com	5552221214	Verizon
Jane Wright	jw@eytech.com	5552221213	Verizon
Jill Davidson	jd@eytech.com	5552221215	Verizon
John Smith	js@eytech.com	5552221212	Verizon
* add contact			

The Email can be expressed as a variable and assigned a value at runtime, the variable name is enclosed in {} e.g., {RG000} or {EmailRecipient}.

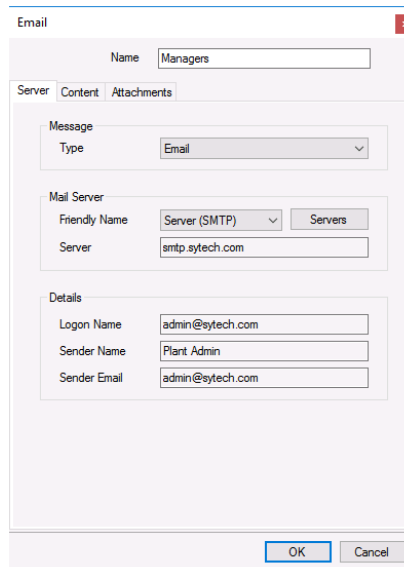
The **Phone** and **Provider** are only required for text messaging. Note that if the mobile **Provider** is not listed, it can be added (see the **Setup Providers** section above).

To remove a contact, highlight the contact’s row in the grid and press the delete key on the keyboard. Multiple rows can be selected and deleted at once.

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## Design a Configuration

Configurations are designed or modified by selecting the menu option **Add** or **Modify**. The **Add** option is always enabled whereas the **Modify** option is enabled when a configuration is selected.



The dialog consists of three tabs **Server** (mail server), **Content** (email recipients and content) and **Attachments** (email attachments).

Enter a **Name** for the configuration to reflect its settings e.g., *Managers*.

### Server

#### Message

This defines the Type of message sent. The following options are available:

##### **Email**

The configuration is sent as an email to any recipient specified.

##### **Text Message (MMS)**

The configuration is sent as a text message via the Multimedia Messaging Service protocol. This allows for files to be attached to the message which can then be viewed by the text recipient.

##### **Text Message (SMS)**

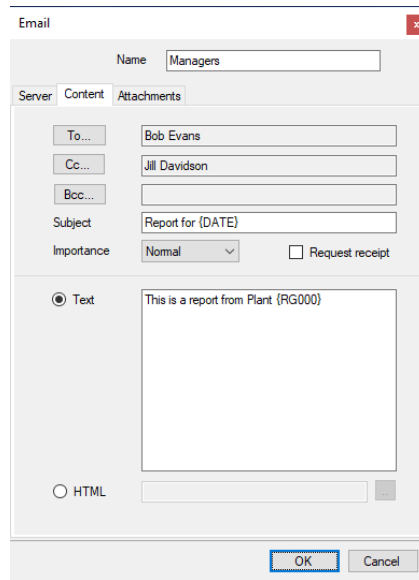
The configuration is sent as a text message via the Simple Messaging Service protocol. Only text content is sent with no attachments. These messages may be limited in size based on the mobile provider.

#### Mail Server

The **Mail Server** is defaulted to the first server defined when the servers were setup (see **Configure the Email Server**). If a different server is required, select it from the dropdown list. A new server can be defined by clicking the **Servers** button.

## Content

The **Content** tab is used to define the names of recipients, the subject and email content.



The screenshot shows the 'Email' dialog box with the 'Content' tab selected. The 'Name' field contains 'Managers'. The 'To...' field contains 'Bob Evans', 'Cc...' contains 'Jill Davidson', and 'Bcc...' is empty. The 'Subject' field contains 'Report for (DATE)'. The 'Importance' dropdown is set to 'Normal', and the 'Request receipt' checkbox is unchecked. The 'Text' radio button is selected, and the content area contains 'This is a report from Plant (RG000)'. The 'HTML' radio button is unselected, and its content area is empty. The 'OK' and 'Cancel' buttons are at the bottom.

Use **To...**, **Cc...**, and **Bcc...** to select the email addresses of the recipients of the email. Enter a **Subject** which can be a combination of text and **Variables**. A list of variables is displayed by right-clicking on the textbox of the **Subject**.

The **Importance** can be set to *Low*, *Normal* or *High*. This setting is only enabled if Type is *E-mail*.

If **Request receipt** is checked then when the recipient receives the email they are prompted to send a return receipt indicating they have received the message. This setting is only enabled if **Type** is *E-mail*.

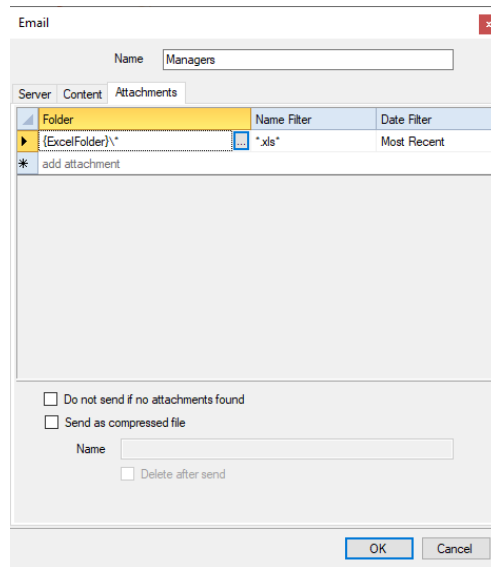
The content of the email can either be **Text** or **HTML**.

If the content is **Text**, then **Variables** and **Tags** can be included in the message (selected by right clicking the textbox).

If the content is **HTML**, then a HTML file from the *Web* directory of the project is selected by clicking browse [...] (see **Attachments** tab).

## Attachments

The **Attachments** tab is used to define the file attachments for an email. This tab is not visible when **Type** is set to *Text Message (SMS)* or when it is launched from the **Scheduler**.



The dialog shows a grid that lists all the attachments for the email.

To add a new attachment, click [...] under the **Folder** column on the bottom row in the grid. This launches the **Attachment** dialog. To remove an attachment, highlight the row and press the delete key on the keyboard.

If no attachments are available to send, the email will not be sent if **Do not send if no attachments found** is checked. If the email is not sent, an error message will be logged to the **Status Log** instead. If this option is not checked, the email will send regardless of if attachments are found or not.

Please note, this option has no affect if the **Most Recent** date filter is set or the **Exclude Most Recent** option is checked for any configured attachment. In those cases, if no files are found, an error is always logged and the message is not sent.

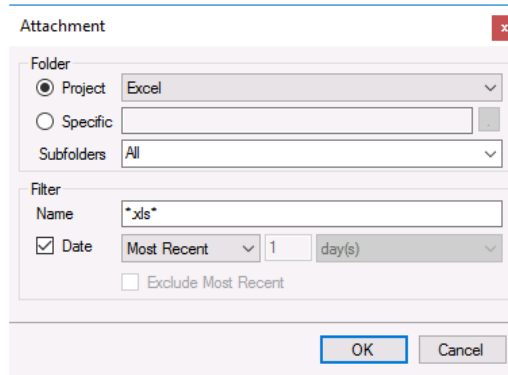
Multiple attachments can be compressed into a single file by checking **Send as compressed file** and entering a **Name**. If this is not specified as a full path, it is pre-pended with *{ExcelFolder}* indicating that the compressed file is created in the *Excel* directory of the project.

The **Name** can be a combination of text as **Variables** by right clicking the textbox. If no extension is specified, then *zip* is used. Note that if the compressed file name already exists, it is overwritten when the message is sent.

The compressed file (specified in the **Name** setting) is deleted from the file system if **Delete after send** is checked.

### Assigning Attachments

This dialog is used to specify either the configuration of attachments or an HTML file to use as the message body content.



The **Folder** can either be a **Project** folder (*Excel*, *Web* or *PDF*) or a **Specific** folder. When **Folder** is set to **Project**, **Subfolders** can be manually entered or selected from the drop-down list. Select the **Subfolder** based on the **Report Template** to be emailed. Note that every template in the project is listed in **Subfolders** regardless of whether a report has been generated from that template or not.

The **Filter** determines which files from the **Folder** will be considered. The filter **Name** can be a combination of hard coded text, wildcards (“\*” for multiple characters), or (“?” for a single character). Files that begin with an underscore (“\_”) are never considered.

*Example:* To attach all the *Excel* reports that start with *Flow*, set the **Filter Name** to *Flow\*.xls\**.

Check **Date** to filter the files on the file modified date. This setting can be:

- **Most Recent**  
The most recent file is considered.
- **Within**  
All files *newer* than what is specified is considered.
- **Outside**  
All files *older* than what is specified is considered.

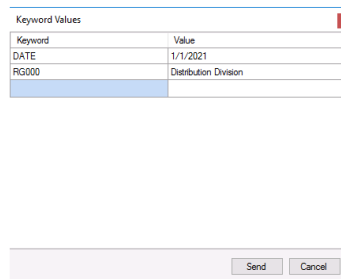
*Example:* To attach all reports generated within the last week, set the date filter to *Within 1 week(s)*. To attach all reports generated more than 3 days ago, set the date filter to *Outside 3 day(s)*.

The most recent file satisfying the **Name** and **Date** settings can be excluded by checking **Exclude Most Recent**.

## Validate

Any configuration can be validated by highlighting it from the main window and selecting **Send**. This will run the configuration and display the results.

If a configuration contains custom variables then an intermediate window will appear showing the variables used and where temporary values can be assigned.



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## Deploy a Configuration

A configuration is deployed for automatic processing on time or process events from the **Scheduler** using either the *Email a Workbook* or *Email by a Configuration* (see **REPORT, Deploy Schedule Reports**).

Alternatively, email configurations can be used to manually send emails from the Workbook and On-Demand Reports viewers.(see **REPORT, Deploy On-Demand Reports** and **REPORT, Deploy Scheduled Reports** respectively)

For *Email by a Configuration*, if **Custom Variables** are being used (defined in **Project Explorer**), then their values can also be specified in the form *Variable=Value*.

*Example:* Setup a configuration with the subject “Tank {TankName} level low”. The **Variable** {TankName} is a custom variable that was specified in **Variables**. This configuration can be used across all our tanks by assigning the custom variable the value pertinent to a specific tank.

For each tank, setup an event schedule that trigger when the process level falls below 30. Assign *TankName* and run the configuration to email a text message to the appropriate people.

The image shows two panels of configuration settings. The left panel has fields for Connector (XLR\_DA), Tag (TANKLEVEL), Condition (Less Than), and Value (30). The right panel has Action (Email by a Configuration), Configuration (Supplier), Value (TankName=Ammonia), and a checkbox for Wait to Complete.

Configurations can also be deployed from third party applications such as HMI screens, VBA macros, and the windows command line. The syntax to execute a configuration is as follows:

**Install\bin\XMailer.exe /f Configuration**

Where *Install* is the full path to the installation and *Configuration* is the name of the configuration file.

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## Office 365 Setup

Microsoft is in the process of deprecating basic authentication for the Office 365 SMTP server. This means a more modern authentication is required where a token is provided which the sender must use in order access the Office 365 SMTP server.

The following documents the steps needed for XLReporter’s Mailer to send email and text messages using Office 365. This assumes that the Office 365 account used to send email can consent to an application’s request. If you are unsure, please contact your administrator.

### Microsoft 365 Admin Center

The first step is to make sure Authenticated SMTP is enabled for the user that you wish to send email through.

This is done by going to the **Microsoft 365 admin center**, locating the user under the **Active Users**, clicking the **Manage email apps** link and checking **Authenticated SMTP**.

### Azure Active Directory

The next step is to create an XLReporter Mailer app in the Azure Active Directory. To do so, use your web browser open the Azure Active Directory (portal.azure.com).

Log in with the user you wish to send email through, if it is not already logged in.





## Manage Azure Active Directory

Manage access, set smart policies, and enhance security with Azure Active Directory.











[View](#)

[Learn more](#) 

In the **Manage Azure Active Directory** section click **View**.

### Create and Register Application

#### Manage

-  Users
-  Groups
-  External Identities
-  Roles and administrators
-  Administrative units
-  Enterprise applications
-  Devices
-  App registrations
-  Identity Governance
-  Application proxy

On the left side, under **Manage**, select **App registrations**. In **App registrations** on the right, select **New registration**.

## Register an application ...

### \* Name

The user-facing display name for this application (this can be changed later).

XLReporter Mailer ✓

### Supported account types

Who can use this application or access this API?

- Accounts in this organizational directory only (SyTech, Inc. only - Single tenant)
- Accounts in any organizational directory (Any Azure AD directory - Multitenant)
- Accounts in any organizational directory (Any Azure AD directory - Multitenant) and personal Microsoft accounts (e.g. Skype, Xbox)
- Personal Microsoft accounts only

[Help me choose...](#)

### Redirect URI (optional)

We'll return the authentication response to this URI after successfully authenticating the user. Providing this now is optional and it can be changed later, but a value is required for most authentication scenarios.

Web ✓ http://localhost:3017/ ✓

Set **Name** to *XLReporter Mailer*. Under the **Redirect URI** section, select **Web** and then specify <http://localhost:Port/> where *Port* is an open port number on your system (typically port *3017* is not used by anything). Click **Register** at the bottom to register the application.

## Add Permissions

Now permissions need to be added. Select **API permissions** on the left side. The following permissions need to be added:

+ Add a permission ✓ Grant admin consent for SyTech, Inc.

API / Permissions name	Type	Description	Admin consent requ...	Status
Microsoft Graph (5)				...
offline_access	Delegated	Maintain access to data you have given it access to	No	...
openid	Delegated	Sign users in	No	...
profile	Delegated	View users' basic profile	No	...
SMTP.Send	Delegated	Send emails from mailboxes using SMTP AUTH.	No	...
User.Read	Delegated	Sign in and read user profile	No	...

Permissions are added by clicking **Add a permission**, selecting **Microsoft Graph, Delegated permissions** and then checking the ones listed. The **offline\_access**, **openid** and **profile** permissions are found under **OpenId** permissions and **SMTP.Send** is found under **SMTP**.

## Create a Client Secret

Select **Certificates & Secrets** on the left side. On the right side, click **New client secret**.

In **Add a client secret**, set a **Description** and when it **Expires**. Click **Add** when complete.

Be sure to record the **Value** for the secret you just created. This is the only time it will be visible, and you will need to provide it to XLReporter.

## Identify Information

The application configuration is now complete. The following information must be identified and provided to XLReporter:

- **Port**  
The port number specified in the Redirect URI. If you do not recall, you can view this in the **Overview** by clicking **Redirect URIs**.
- **Client ID**  
The client ID can be found in the Azure Active Directory by selecting **Overview** on the left side. **Application (client) ID** is listed directly under **Display Name**.
- **Client Secret**  
The client secret value should have been recorded in the previous step.
- **OAuth 2.0 authorization endpoint (v2)**  
In the **Overview**, click **Endpoints** at the top. The **OAuth 2.0 authorization endpoint (v2)** is the first one listed.
- **OAuth 2.0 token endpoint (v2)**  
In the same **Endpoints** display, **OAuth 2.0 token endpoint (v2)** is the second one listed.

## Windows Firewall

If the Windows Firewall is enabled on the machine where XLReporter is installed, the XLReporter Mailer application should be allowed to communicate through Windows Defender Firewall. You will need administrator privileges to do this.

Open the **Windows Defender Firewall**. Click **Allow an app or feature through the Windows Defender Firewall**.

To add, click **Change settings** at the top. Scroll to the bottom and click **Allow another app...**

Browse to **C:\XLReporter\bin** (assuming XLReporter is installed on the C drive) and select **XLRIMailDesign.exe**. Click **Add**.

**XLReporter Mail Designer** should now appear in the list. Check to enable the appropriate networks.

Please note that if this step is skipped, when attempting to authenticate you may receive a message from Windows Defender Firewall prompting to allow the application to communicate. This will require administrator privileges right at that time which may not be readily available which is why this step is strongly recommended.

## Mail Designer

### Office 365 Setup

In the Mail Designer, under the **Edit** menu select *Office 365*.

Specify the information recorded from the previous step. When completed click **Get Token**.

## Permissions requested

XLReporter Mailer  
sytech.com

**This application is not published by Microsoft.**

This app would like to:

- View your basic profile
- Maintain access to data you have given it access to
- Access to sending emails from your mailbox.

Accepting these permissions means that you allow this app to use your data as specified in their terms of service and privacy statement. You can change these permissions at <https://myapps.microsoft.com>. [Show details](#)

Does this app look suspicious? [Report it here](#)

Cancel

Accept

The **Office 365 Verification** window opens. If you are not logged in, log in as the user to send email through. For **Permissions requested**, click **Accept**. This will retrieve your token and close the verification window. Click **OK** to save the settings.

The token generated will expire at some point in the future. During runtime, if the token is expired it will be automatically refreshed with Office 365 without any user intervention. If you would like to manually refresh the token, you can access these settings and click the **Refresh** button to do so. Click **OK** to save the settings.

If you need to generate a new token (for instance, if you want to change the account with which to send email or your **Client Secret** has expired), you can do so by accessing these settings and clicking the **Reset** button. You can then enter the required information and click **Get Token** to generate a new token. Click **OK** to save the settings.

## Server Setup

Server

Friendly Name: Server (SMTP)

Server

Server (SMTP): smtp.office365.com

Port Number: 587  Use Default

Encryption: STARTTLS

Logon Information

Name: admin@sytech.com

Password:

Use Anonymous

Sender Information

Name: Plant Admin

Email: admin@sytech.com

Send Test Email

OK Cancel

When configuring the SMTP server, under **Logon Information**, the **Password** does not need to be specified because authentication is now done using the token established in the previous step.

## Expired Client Secret

The client secret set up in the Azure Active Directory must be set with an expiration. When this secret expires, the Mailer will fail to send emails, logging the error “Failed to refresh access token”.

At this point, you must return to the **Azure Active Directory** and select the **XLReporter Mailer** application by clicking **App registrations** on the left and then clicking the application itself,

Click the **Certificates & secrets** on the left and define a new client secret. You can also delete the expired secret listed since it is no longer valid. Be sure to record the new secret **Value**.

In XLReporter's **Mail Designer (Project Explorer, Tools, Email and SMS)** select **Edit, Office 365**. Click **Reset** to enable the settings and set the **Client Secret** to the new secret generated. Click **Get Token** to generate a new token and **OK** to save the settings.

Email and text messages should now send again.

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## Troubleshooting

### Common Errors

#### Failed to connect to the SMTP server

If this error occurs, access the **Server** settings and check the following in the **Server** section:

- Verify the **Server (SMTP)** setting is specified correctly
- Verify the **Port Number** for the mail server. If it is 25, **Use Default** can be checked, otherwise it should not be checked and the **Port Number** specified.
- If the mail server requires encryption, ensure the correct **Encryption** setting is selected.
- If the mail server is Gmail you must create an **App Password** in your Google account and use that as the **Password** in the **Logon Information** section.

#### Failed to log into SMTP Server

If this error occurs, access the **Server** settings and check the following in the **Logon Information** section:

- Verify the **Name** is correct. Some servers require this to be a complete email address (e.g., *fred@bedrock.com*) while others just require a name (e.g., *fred*).
- Verify the **Password** for the specified **Name**. This is case sensitive.
- For some mail servers, the **Logon Information Name** must match the **Sender Information Email** specified.
- If the mail server is Office 365, **Authenticate SMTP** is not enabled by default for the user **Name** specified under **Logon Information**. This can cause a logon failure error when trying to send an email. To enable, an Office 365 administrator must open the Microsoft 365 Admin Center. In the **Users, Active Users** settings, **Authenticate SMTP** can be enabled for specific users.

### Error Detail

If there is an error sending a message that cannot be easily diagnosed, a verbose error log can be generated to help troubleshoot the issue.

To do this, in the **Log** folder create a blank text file named *maildebug.txt*. When you attempt to send a message, if there is an error sending the message the file *mailerror.txt* is created. This file can be presented to SyTech for further investigation.

Delete *maildebug.txt* from the **Log** folder to carry on normal operations.

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