

iMail - Outlook 365 OAuth Setup Guide

This guide covers the two authentication modes supported by iMail for sending emails through Microsoft 365.

DELEGATE Delegated User (SMTP)

Sends email via **SMTP** using a real user's credentials (ROPC flow). The email is sent *as* that user.

- Uses SMTP + XOAUTH2
- Requires username & password
- Simpler Azure setup

APP Application (Graph API)

Sends email via the **Microsoft Graph API** using application-level credentials. No user credentials needed.

- Uses Graph API sendMail endpoint
- Requires client secret
- Better for service accounts / automation

Step 1 — Register an App in Azure AD

These steps are common to both modes.

1. Sign in to the [Azure Portal](#).
2. Navigate to **Azure Active Directory** → **App registrations** → **New registration**.
3. Enter a name (e.g. iMail).
4. Under **Supported account types**, choose *Accounts in this organizational directory only (Single tenant)*.
5. Leave **Redirect URI** blank and click **Register**.
6. On the app's **Overview** page, copy:
 - **Application (client) ID** → this is your `CLIENT_ID`
 - **Directory (tenant) ID** → this is your `TENANT_ID`

Step 2 — Configure API Permissions

DELEGATE Permissions

1. Go to **API permissions** → **Add a permission**.
2. Select **APIs my organization uses**, search for **Office 365 Exchange Online**.
3. Choose **Delegated permissions**.
4. Check **SMTP.Send** and click **Add permissions**.
5. Click **Grant admin consent**.

APP Permissions

1. Go to **API permissions** → **Add a permission**.
2. Select **Microsoft Graph**.
3. Choose **Application permissions**.
4. Search and check **Mail.Send**, then click **Add permissions**.
5. Click **Grant admin consent**.

Step 3 — Authentication Settings

DELEGATE Authentication

1. Go to **Authentication**.
2. Under **Advanced settings**, set **Allow public client flows** to **Yes**.
3. Click **Save**.

Tip: Enabling public client flows allows delegated mode to work *without* a client secret. If you prefer to keep this disabled, you must provide `CLIENT_SECRET` in your `iMailOAuth.config`.

APP Client Secret

1. Go to **Certificates & secrets** → **Client secrets** → **New client secret**.
2. Enter a description and choose an expiry period.
3. Click **Add**.
4. Copy the secret **Value** immediately (it will not be shown again).

Important: Copy the secret value right away. Azure will hide it after you leave this page.

Step 4 — Enable Authenticated SMTP (Delegated mode only)

DELEGATE The sender mailbox must have SMTP AUTH enabled.

1. Sign in to the [Microsoft 365 Admin Center](#).
2. Go to **Users** → **Active users** and select the sender account.
3. Click the **Mail** tab.
4. Under **Email apps**, click **Manage email apps**.
5. Check **Authenticated SMTP** and click **Save changes**.

Note: The ROPC (delegated) flow does **not** support accounts with Multi-Factor Authentication (MFA) enabled. If MFA is required, either exclude this account via a Conditional Access policy or use the **APP** mode instead.

Step 5 — Configure iMail (IMCFG1)

On the IBM i, run the iMail configuration command to open the **IMCFG1** screen, then set the following fields:

Configuration Setting	Value	Notes
Email Send Method (SMTP/ESMTP)	ESMTP	Required for OAuth
SMTP Host Mail Server	smtp.office365.com	Microsoft 365 SMTP server
SMTP Port	00587	TLS port for SMTP
Sender Address	noreply@yourdomain.com	The email address used as the sender
Default From Address	noreply@yourdomain.com	Usually same as Sender Address
Default Reply To Address	noreply@yourdomain.com	Where replies will be directed
Authentication User Name	noreply@yourdomain.com	The DELEGATED_USER for OAuth login
Authentication Password	(your password)	The DELEGATED_PASSWORD for OAuth login
Authentication Encrypted (Y/N)	N	
Using OAuth 2.0 (DELEGATE/APP)	DELEGATE or APP	Selects the authentication mode
Outlook 365 OAuth Config Folder	/home/anguyen	IFS folder containing iMail10Auth.com
OAuth Client ID	xxxxxxxx-xxxx-...	Application (client) ID from Azure

OAuth Client Secret	(your secret)	Required for APP mode; optional for D Step 3)
OAuth Tenant ID	xxxxxxxx-xxxx-...	Directory (tenant) ID from Azure

Note: Press **F10** to save and scroll down (**More...**) if there are additional settings. Use **F14** to configure a 2nd SMTP server if needed.

Step 6 — Configure iMailOAuth.config

The configuration file is always named `iMailOAuth.config` and must be placed in the **Outlook 365 OAuth Config Folder** specified in IMCFG1 (e.g. `/home/anguyen`). The file uses a simple `KEY = VALUE` format. Lines starting with `#` are comments.

Required Properties (both modes)

Key	Description	Example
CLIENT_ID	Application (client) ID from Azure app registration	xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx
TENANT_ID	Directory (tenant) ID from Azure	xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx
TOKEN_URL	OAuth 2.0 token endpoint. Use {TENANT_ID} as placeholder — it will be replaced automatically.	<code>https://login.microsoftonline.com/{TENANT_ID}</code>

DELEGATE Properties

Key	Required	Description	Example / Default
DELEGATED_USER	Yes	User email (UPN) for	<code>sender@yourdomain.com</code>

		ROPC authentication. When this key is present, iMail uses delegated mode.	
DELEGATED_PASSWORD	Yes	User password	
CLIENT_SECRET	Conditional	Required only if Allow public client flows is No in Azure	
DELEGATED_SCOPE	No	OAuth scope override	Default: https://outlook.officeappsauth.com/offline_access
DELEGATED_TOKEN	No	Cached access token (managed by iMail)	
DELEGATED_EXPIRY_TIME	No	Cached token expiry time (managed by iMail)	Format: yyyy-MM-dd-HH.mm.ss

APP Properties

Key	Required	Description	Example / Default
CLIENT_SECRET	Yes	Client secret from Azure app registration	
SCOPE	Yes	OAuth scope for Microsoft Graph API	https://graph.microsoft.com/

ENDPOINT	Yes	Graph API sendMail endpoint. Use {FROM_ADDRESS} as placeholder for the sender email.	https://graph.microsoft.com/
TOKEN	No	Cached access token (managed by iMail)	
EXPIRY_TIME	No	Cached token expiry time (managed by iMail)	Format: yyyy-MM-dd-HH.mm.ss

Mode selection: iMail automatically selects the mode based on your config. If DELEGATED_USER is present, **delegated (SMTP)** mode is used. Otherwise, if CLIENT_SECRET is present, **application (Graph API)** mode is used. Delegated mode has higher priority.

Step 7 — Example Configurations

DELEGATE iMailOAuth.config

```
# =====
# iMail OAuth Configuration - Delegated (SMTP)
# =====

# --- Azure App Registration ---
CLIENT_ID           = xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxxx
TENANT_ID           = xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxxx
TOKEN_URL           =
https://login.microsoftonline.com/{TENANT_ID}/oauth2/v2.0/token

# --- Delegated User Credentials ---
DELEGATED_USER      = sender@yourdomain.com
DELEGATED_PASSWORD  = your-password

# --- Optional: only needed if "Allow public client flows" is No
---
# CLIENT_SECRET     = your-client-secret

# --- Optional: override default scope ---
```

```
# DELEGATED_SCOPE = https://outlook.office365.com/SMTP.Send  
offline_access
```

APP iMailOAuth.config

```
# =====  
# iMail OAuth Configuration - Application (Graph)  
# =====  
  
# --- Azure App Registration ---  
CLIENT_ID      = xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx  
CLIENT_SECRET  = your-client-secret  
TENANT_ID      = xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx  
TOKEN_URL      =  
https://login.microsoftonline.com/{TENANT_ID}/oauth2/v2.0/token  
  
# --- Graph API ---  
SCOPE          = https://graph.microsoft.com/.default  
ENDPOINT       =  
https://graph.microsoft.com/v1.0/users/{FROM_ADDRESS}/sendMail
```

Behavior Notes

From Address vs Login User

DELEGATE In delegated mode, the **from address** (the email sender) and the **login user** (DELEGATED_USER) can be different.

iMail first attempts to authenticate SMTP using the from address. If authentication fails and the from address differs from the login user, iMail automatically **retries using the login user** as the SMTP connect identity. The **From:** header is updated to match.

This means you can configure DELEGATED_USER as a service account and attempt to send from another mailbox — if the other mailbox rejects authentication, iMail falls back to sending as the service account.

Token Caching

iMail automatically caches tokens to avoid unnecessary requests to Azure.

- **DELEGATE** Cached values: DELEGATED_TOKEN and DELEGATED_EXPIRY_TIME
- **APP** Cached values: TOKEN and EXPIRY_TIME

Tokens are refreshed automatically **5 minutes before expiry**.

Java Version Compatibility (IBM i)

All jar files in the classpath must be compiled for a Java version compatible with your IBM i JVM. If you encounter a `JVMCFRE003 bad major version error`, replace the offending jar with an older version.

Jar	Compatible Version	Minimum J
json-20230227.jar	Recommended	Java 6+
json-20231013.jar	Too new for older IBM i	Java 8+

Troubleshooting

Azure AD / Token Errors

Error	Cause	Solution
AADSTS7000218 client_assertion or client_secret required	Azure app is registered as a confidential client and no secret was provided.	Option A: Add CLIENT_SECRET to your iMailO Option B: In Azure Portal → App registrations → Advanced settings → set Allow public client flows
AADSTS65001 consent_required	Admin has not granted consent for the requested permissions.	Azure Portal → App registrations → API permissions → click Grant admin consent .
AADSTS50126 invalid_grant	Invalid username or password.	Verify DELEGATED_USER and DELEGATED_PASSWORD. Ensure the account does not have MFA enabled (not supported for this flow).
AADSTS900023 Specified tenant identifier is invalid	Tenant ID is missing or the {TENANT_ID} placeholder was not replaced.	Ensure TENANT_ID is set in your config and that TOKEN_URL contains {TENANT_ID} (not \$TENANT_ID).
AADSTS50076 or MFA-related error	The user account has Multi-Factor Authentication enabled.	The ROPC (delegated) flow does not support MFA. For this account, exclude it via Conditional Access switch to APP mode.

SMTP / Send Errors

Error	Cause	Solution
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535 5.7.3 Authentication unsuccessful	SMTP AUTH is disabled for the sender mailbox.	Sign in to Microsoft 365 Admin Center . Go to Users → Active users → select the sender account. Click the Mail tab. Under Email apps , click Manage email apps . Check Authenticated SMTP and click Save changes . It may take a few minutes to take effect.
535 5.7.139 Authentication unsuccessful	The OAuth token is invalid or the scope is incorrect.	Ensure DELEGATED_SCOPE includes https://outlook.office365.com/ . If using a custom scope, verify it matches the API permissions granted to the app.
SMTP authentication failed ... Retrying with login user	The from address failed SMTP authentication. iMail is automatically retrying with DELEGATED_USER.	This is expected when the from address differs from the login user's mailbox. If the mailbox does not allow the login, the login will fail. If the retry also fails, check the error.

Configuration Errors

Error	Cause	Solution
Either DELEGATED_USER or CLIENT_SECRET must be configured	Neither delegated nor application authentication is configured.	Add DELEGATED_USER (for SMTP) or CLIENT_SECRET (for Graph API) to your iMailOAuth.config.
SCOPE and ENDPOINT are required for application authentication	Application mode is detected but Graph API settings are missing.	Add SCOPE and ENDPOINT to your iMailOAuth.config.
Unknown OAuth mode	The imail.oauth.mode system property is not set to DELEGATE or APP.	Set imail.oauth.mode to DELEGATE or APP in your system properties (new facade).

IBM i / Java Runtime Errors

Error	Cause	Solution
JVMCFRE003 bad major version	A jar file was compiled with a newer Java version than the JVM on your IBM i.	Replace the jar with a version compatible with your IBM i Java level. For example, json-20230227.jar (Java 6+) instead of json-20231010.jar (Java 8+).

Java class not found	A required jar is missing from the classpath.	Ensure all required jars (json-20230227.jar, javax.mail.jar, javax.activation.jar, jt4
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Appendix — New Facade (System Properties)

The new `sendMail()` facade reads configuration from **Java system properties** (set by the RPG caller via `SPOAUTH`). This is an alternative to the `iMailOAuth.config` file.

System Properties Reference

System Property	Config File Equivalent	Description
<code>imail.oauth.mode</code>	—	DELEGATE or APP
<code>imail.oauth.clientId</code>	CLIENT_ID	Application (client) ID
<code>imail.oauth.clientSecret</code>	CLIENT_SECRET	Client secret
<code>imail.oauth.tenantId</code>	TENANT_ID	Directory (tenant) ID
<code>imail.oauth.tokenUrl</code>	TOKEN_URL	Token endpoint (supp
<code>imail.oauth.user</code>	DELEGATED_USER	Login user for delegat
<code>imail.oauth.password</code>	DELEGATED_PASSWORD	Login password
<code>imail.oauth.delegatedScope</code>	DELEGATED_SCOPE	Delegated OAuth scop
<code>imail.oauth.applicationScope</code>	SCOPE	Application OAuth sc
<code>imail.oauth.applicationEndpoint</code>	ENDPOINT	Graph API sendMail (supports {FROM_ADD
<code>imail.oauth.token</code>	TOKEN / DELEGATED_TOKEN	Cached token
<code>imail.oauth.expiry</code>	EXPIRY_TIME / DELEGATED_EXPIRY_TIME	Cached token expiry
<code>imail.smtp.host</code>	—	Default: smtp.offic
<code>imail.smtp.port</code>	—	Default: 587

<code>icemail.mail.from</code>	—	Sender email address
<code>icemail.mail.to</code>	—	Recipient(s), comma-
<code>icemail.mail.cc</code>	—	CC recipient(s)
<code>icemail.mail.bcc</code>	—	BCC recipient(s)
<code>icemail.mail.subject</code>	—	Email subject
<code>icemail.mail.bodyFile</code>	—	Path to email body fil
<code>icemail.mail.attachments</code>	—	Attachment paths, ser
<code>icemail.mail.readReceipt</code>	—	Y or N
<code>icemail.mail.deliveryReceipt</code>	—	Y or N
<code>icemail.mail.debug</code>	—	ON or OFF
<code>icemail.log.path</code>	—	Log output path