Oracle® Cloud

Using the Microsoft Office 365 Outlook Adapter with Oracle Integration 3

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Oracle Cloud Using the Microsoft Office 365 Outlook Adapter with Oracle Integration 3,

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Primary Author: Oracle Corporation

Contents

About This Content

This guide describes how to configure this adapter as a connection in an integration in Oracle Integration.

Audience

This guide is intended for developers who want to use this adapter in integrations in Oracle Integration.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

Related Resources

See these Oracle resources:

- Oracle Cloud at `http://cloud.oracle.com`
- *Using Integrations in Oracle Integration 3*
- *Using the Oracle Mapper with Oracle Integration 3*
- Oracle Integration documentation on the Oracle Help Center.

Conventions

The following text conventions are used in this document.

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1

Understand the Microsoft Office 365 Outlook Adapter

Review the following conceptual topics to learn about the Microsoft Office 365 Outlook Adapter and how to use it as a connection in integrations in Oracle Integration. A typical workflow of adapter and integration tasks is also provided.

Topics:

> **Note**
>
> There are overall service limits for Oracle Integration. A service limit is the quota or allowance set on a resource. See Service Limits.

Microsoft Office 365 Outlook Adapter Capabilities

The Microsoft Office 365 Outlook Adapter enables you to create an integration with a Microsoft Office 365 Outlook application. Use the Microsoft Office 365 Outlook Adapter in an Oracle Integration integration to retrieve messages in Office 365 and Outlook.com.

The Microsoft Office 365 Outlook Adapter provides the following benefits:

- Enables you to manage messages, manage folders, and so on.
- Supports Microsoft Graph REST API operations.
- Supports query parameters and pagination to control the amount of email message data returned through the Microsoft Graph API. This feature reduces the chances of timeouts occurring due to large deliveries. See Use query parameters to customize responses and Request Parameters Page.

The Microsoft Office 365 Outlook Adapter is one of many predefined adapters included with Oracle Integration. You can configure the Microsoft Office 365 Outlook Adapter as a connection in an integration in Oracle Integration.

What Application Version Is Supported?

For information about which application version is supported by this adapter, see the Connectivity Certification Matrix.

About Microsoft Office 365 Outlook Adapter Use Cases

The Microsoft Office 365 Outlook Adapter can be used in the following scenarios.

- You can integrate a Microsoft Office 365 Outlook account with the Microsoft Office 365 Outlook Adapter to return information such as emails, attachments, and folders
- You can integrate a Microsoft Office 365 Outlook account with the Microsoft Office 365 Outlook Adapter to complete tasks such as sending email, creating new folders, deleting email and attachments, and creating new file attachments.

> **Note**
>
> Oracle Integration offers a number of prebuilt integrations, known as *recipes*, that provide you with a head start in building your integrations. You can start with a recipe, and then customize it to fit your needs and requirements. Depending upon the solution provided, a variety of adapters are configured in the prebuilt integrations.
> See the Recipes and Accelerators page on the Oracle Help Center.

Workflow to Create and Add a Microsoft Office 365 Outlook Adapter Connection

Follow a workflow to create a connection with an adapter and include the connection in an integration in Oracle Integration.

Step	Description	More Information
1	Decide where to work	• Work in a project (see why working with projects is preferred in *Using Integrations in Oracle Integration 3*). • Work outside a project.
2	Create the adapter connections for the applications you want to integrate. The connections can be reused in multiple integrations and are typically created by the administrator.	Create a Microsoft Office 365 Outlook Adapter Connection
3	Create the integration. When you do this, you add trigger and invoke connections to the integration.	Understand Integration Creation and Best Practices and Add the Microsoft Office 365 Outlook Adapter Connection to an Integration
4	Map data between the trigger connection data structure and the invoke connection data structure.	Map Data in *Using Integrations in Oracle Integration 3*
5	(Optional) Create lookups that map the different values used by those applications to identify the same type of object (such as gender codes or country codes).	Manage Lookups in *Using Integrations in Oracle Integration 3*
6	Activate the integration.	Manage Integrations in *Using Integrations in Oracle Integration 3*

Step	Description	More Information
7	Monitor the integration on the dashboard.	Monitor Integrations During Runtime in *Using Integrations in Oracle Integration 3*
8	Track payload fields in messages during runtime.	Assign Business Identifiers for Tracking Fields in Messages and Track Integration Instances in *Using Integrations in Oracle Integration 3*
9	Manage errors at the integration level, connection level, or specific integration instance level.	Manage Errors in *Using Integrations in Oracle Integration 3*

2

Create a Microsoft Office 365 Outlook Adapter Connection

A connection is based on an adapter. You define connections to the specific cloud applications that you want to integrate.

Topics:

Prerequisites for Creating a Connection

These are the prerequisites for creating a connection with the Microsoft Office 365 Outlook Adapter.

> **Note**
>
> Before creating a Microsoft Office 365 Outlook Adapter connection, you must upload the trusted public certificate to Oracle Integration. The public certificate is created when you create the private key. Rename the public certificate file extension to `.crt`. To upload the certificate, see Upload a Certificate to Connect with External Services.

1. Log in to `https://azure.microsoft.com/` with administrator access. If you do not have an account, click **Free account**.
2. In the upper right, click **Portal**.
3. In the search field at the top, enter `app registration`, then click the **Search** icon.
4. Click **New registration**.
5. In the **Name** field, enter the user-facing display name for this application.
6. In the **Supported account types** section, select **Accounts in Any Organizational Directory**.
7. In the **Redirect URI (optional)** section, select **Web**, then enter the redirect URL.

> **Note**
>
> If you don't know the following information, check with your administrator:
>
> - If your instance is new or upgraded from Oracle Integration Generation 2 to Oracle Integration 3.
> - The complete instance URL with the region included (required for new instances).

For Connections…	Include the Region as Part of the Redirect URL?	Example of Redirect URL to Specify…
Created on new Oracle Integration 3 instances	Yes.	`https://`*`OIC_instance_URL`*`.`*`region`*`.ocp.oraclecloud.com/icsapis/agent/oauth/callback`
Created on instances upgraded from Oracle Integration Generation 2 to Oracle Integration 3	No. This applies to both: • New connections created after the upgrade • Existing connections that were part of the upgrade	`https://`*`OIC_instance_URL`*`.ocp.oraclecloud.com/icsapis/agent/oauth/callback`

8. Click **Register**.
9. If you want to add more redirect URLs, click the link in the **Redirect URIs** section on the right side of the page.
10. In the left navigation pane, click **Certificates & secrets** to generate a secret.
11. In the **Client secrets** section, click **New client secret**.
12. In the **Description** field, enter a description for the secret.
13. In the **Expires** section, select the proper expiration time (preferably **Never**).
14. Click **Add**.
15. In the **Client secrets** section at the bottom, copy the client secret value in the **Value** column. This value is required when configuring the connection on the Connections page.

> **Note**
>
> The client secret value cannot be displayed again once you exit the Microsoft Azure page. Ensure that you copy this value.

16. In the left navigation pane, click **API permissions** to add required permissions to the application.
17. Click **Microsoft Graph**.

18. In the **Select permissions** field, begin entering the name of the adapter for which you are configuring permissions. For the Microsoft Office 365 Outlook Adapter, enter `Email`. Available permissions are displayed. You enter these permissions in the **Scope** field when configuring a connection on the Connections page.
19. Select the necessary permissions, and click **Update Permissions**. The `offline_access` scope is required. This scope is needed to get a refresh token, which is then used to get new access tokens. See Scopes and permissions in the Microsoft identity platform.
20. In the left navigation pane, click **Overview**.
21. Copy the value shown in the **Application (client) ID** field. This value is required when configuring the connection on the Connections page.

Microsoft also provides an example of how to create this application. See Quickstart: Configure a client application to access web APIs.

Create a Connection

Before you can build an integration, you must create the connections to the applications with which you want to share data.

> **Note**
>
> You can also create a connection in the integration canvas. See Define Inbound Triggers, Outbound Invokes, and Actions.

To create a connection in Oracle Integration:

1. Decide where to start:
   - Work in a project (see why working with projects is preferred).
     a. In the navigation pane, click **Projects**.
     b. Select the project name.
     c. Click **Integrations**.
     d. In the **Connections** section, click **Add** if no connections currently exist or **+** if connections already exist. The Create connection panel opens.
   - Work outside a project.
     a. In the navigation pane, click **Design**, then **Connections**.
     b. Click **Create**. The Create connection panel opens.
2. Select the adapter to use for this connection. To find the adapter, scroll through the list, or enter a partial or full name in the **Search** field.
3. Enter the information that describes this connection.

Element	Description
Name	Enter a meaningful name to help others find your connection when they begin to create their own integrations.

Element	Description
Identifier	Automatically displays the name in capital letters that you entered in the **Name** field. If you modify the identifier name, don't include blank spaces (for example, `SALES_OPPORTUNITY`).
Role	Select the role (direction) in which to use this connection. **Note**: *Only* the roles supported by the adapter you selected are displayed for selection. Some adapters support all role combinations (trigger, invoke, or trigger and invoke). Other adapters support fewer role combinations. When you select a role, only the connection properties and security policies appropriate to that role are displayed on the Connections page. If you select an adapter that supports both invoke and trigger, but select only one of those roles, you'll get an error when you try to drag the adapter into the section you didn't select. For example, assume you configure a connection for the Oracle Service Cloud (RightNow) Adapter as only an **invoke**. Dragging the adapter to a **trigger** section in the integration produces an error.
Keywords	Enter optional keywords (tags). You can search on the connection keywords on the Connections page.
Description	Enter an optional description of the connection.
Share with other projects	**Note**: This field only appears if you are creating a connection in a project. Select to make this connection publicly available in other projects. Connection sharing eliminates the need to create and maintain separate connections in different projects. When you configure an adapter connection in a different project, the **Use a shared connection** field is displayed at the top of the Connections page. If the connection you are configuring matches the same type and role as the publicly available connection, you can select that connection to reference (inherit) its resources. See Add and Share a Connection Across a Project.

4. Click **Create**.

   Your connection is created. You're now ready to configure the connection properties, security policies, and (for some connections) access type.

5. Follow the steps to configure a connection.
   The connection property and connection security values are specific to each adapter. Your connection may also require configuration with an access type such as a private endpoint or an agent group.

6. Test the connection.

Configure Connection Security

Enter connection information so your application can process requests.

1. Go to the **Security** section.
2. Enter the client ID (application ID) and client secret values you recorded when you added your application to your Microsoft Office 365 Outlook account. See Prerequisites for Creating a Connection.
3. Enter the scope URLs in the **Scope** field.

   A scope is a list of authorization permissions for the target application. You must include the `offline_access` scope along with the application-specific scopes. A blank space between each scope is also required.
   For example:

   ```
   https://graph.microsoft.com/Mail.ReadWrite https://graph.microsoft.com/
   Mail.Send offline_access
   ```

   Ensure you correctly enter your scope values. Otherwise, you receive an error when clicking **Provide Consent**.
4. Click **Provide Consent**. This enables Oracle Integration to interact with the Microsoft Office 365 Outlook account used to create the application at `https://portal.azure.com/`. If everything is correct, you are prompted for the Oracle Integration credentials.
   a. Enter the credentials and click **OK**. These are the same credentials you use to log in to Oracle Integration.
   b. Enter the Microsoft Office 365 Outlook account credentials.

      A page is displayed asking for permission to interact with the account.
   c. Click **Yes**.

      The Access Allowed! page is displayed.

Test the Connection

Test your connection to ensure that it's configured successfully.

1. In the page title bar, click **Test**. What happens next depends on whether your adapter connection uses a Web Services Description Language (WSDL) file. Only some adapter connections use WSDLs.

If Your Connection...	Then...
Doesn't use a WSDL	The test starts automatically and validates the inputs you provided for the connection.
Uses a WSDL	A dialog prompts you to select the type of connection testing to perform: • **Validate and Test**: Performs a full validation of the WSDL, including processing of the imported schemas and WSDLs. Complete validation can take several minutes depending on the number of imported schemas and WSDLs. No requests are sent to the operations exposed in the WSDL. • **Test**: Connects to the WSDL URL and performs a syntax check on the WSDL. No requests are sent to the operations exposed in the WSDL.

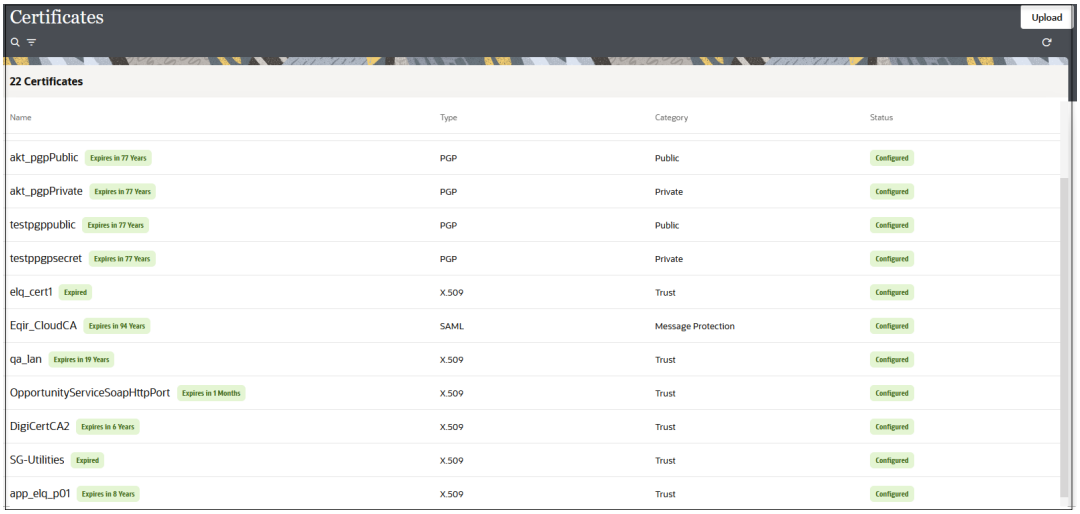
2. Wait for a message about the results of the connection test.
   - If the test was successful, then the connection is configured properly.
   - If the test failed, then edit the configuration details you entered. Check for typos and verify URLs and credentials. Continue to test until the connection is successful.
3. When complete, click **Save**.

Upload a Certificate to Connect with External Services

Certificates allow Oracle Integration to connect with external services. If the external service/endpoint needs a specific certificate, request the certificate and then import it into Oracle Integration.

If you make an SSL connection in which the root certificate does not exist in Oracle Integration, an exception error is thrown. In that case, you must upload the appropriate certificate. A certificate enables Oracle Integration to connect with external services. If the external endpoint requires a specific certificate, request the certificate and then upload it into Oracle Integration.

1. Sign in to Oracle Integration.
2. In the navigation pane, click **Settings**, then **Certificates**.
   All certificates currently uploaded to the trust store are displayed on the Certificates page.
3. Click **Filter** to filter by certificate expiration date, status, and type. Certificates installed by the system cannot be deleted.



4. Click **Upload** at the top of the page.
   The Upload certificate panel is displayed.
5. Enter an alias name and optional description.
6. In the **Type** field, select the certificate type. Each certificate type enables Oracle Integration to connect with external services.
   - Digital Signature
   - X.509 (SSL transport)
   - SAML (Authentication & Authorization)
   - PGP (Encryption & Decryption)

- Signing key

Digital Signature

The digital signature security type is typically used with adapters created with the Rapid Adapter Builder. See Learn About the Rapid Adapter Builder in Oracle Integration in *Using the Rapid Adapter Builder with Oracle Integration 3*.

1. Click **Browse** to select the digital certificate. The certificate must be an X509Certificate. This certificate provides inbound RSA signature validation. See RSA Signature Validation in *Using the Rapid Adapter Builder with Oracle Integration 3*.
2. Click **Upload**.

X.509 (SSL transport)

1. Select a certificate category.
   a. **Trust**: Use this option to upload a trust certificate.
      i. Click **Browse**, then select the trust file (for example, `.cer` or `.crt`) to upload.
   b. **Identity**: Use this option to upload a certificate for two-way SSL communication.
      i. Click **Browse**, then select the keystore file (`.jks`) to upload.
      ii. Enter the comma-separated list of passwords corresponding to key aliases.

      > **Note**
      >
      > When an identity certificate file (`.jks`) contains more than one private key, all the private keys must have the same password. If the private keys are protected with different passwords, the private keys cannot be extracted from the keystore.

      iii. Enter the password of the keystore being imported.
   c. Click **Upload**.

SAML (Authentication & Authorization)

1. Note that **Message Protection** is automatically selected as the only available certificate category and cannot be deselected. Use this option to upload a keystore certificate with SAML token support. Create, read, update, and delete (CRUD) operations are supported with this type of certificate.
2. Click **Browse**, then select the certificate file (`.cer` or `.crt`) to upload.
3. Click **Upload**.

PGP (Encryption & Decryption)

1. Select a certificate category. Pretty Good Privacy (PGP) provides cryptographic privacy and authentication for communication. PGP is used for signing, encrypting, and decrypting files. You can select the private key to use for encryption or decryption when configuring the stage file action.
   a. **Private**: Uses a private key of the target location to decrypt the file.
      i. Click **Browse**, then select the PGP file to upload.
      ii. Enter the PGP private key password.

b. **Public**: Uses a public key of the target location to encrypt the file.

   i. Click **Browse**, then select the PGP file to upload.

   ii. In the **ASCII-Armor Encryption Format** field, select **Yes** or **No**.

   - **Yes** shows the format of the encrypted message in ASCII armor. ASCII armor is a binary-to-textual encoding converter. ASCII armor formats encrypted messaging in ASCII. This enables messages to be sent in a standard messaging format. This selection impacts the visibility of message content.
   - **No** causes the message to be sent in binary format.

   iii. From the **Cipher Algorithm** list, select the algorithm to use. Symmetric-key algorithms for cryptography use the same cryptographic keys for both encryption of plain text and decryption of cipher text. The following supported cipher algorithms are FIPS-compliant:

   - AES128
   - AES192
   - AES256
   - TDES

c. Click **Upload**.

Signing key

A signing key is a secret key used to establish trust between applications. Signing keys are used to sign ID tokens, access tokens, SAML assertions, and more. Using a private signing key, the token is digitally signed and the server verifies the authenticity of the token by using a public signing key. You must upload a signing key to use the OAuth Client Credentials using JWT Client Assertion and OAuth using JWT User Assertion security policies in REST Adapter invoke connections. Only PKCS1- and PKCS8-formatted files are supported.

1. Select **Public** or **Private**.
2. Click **Browse** to upload a key file.
   If you selected **Private**, and the private key is encrypted, a field for entering the private signing key password is displayed after key upload is complete.
3. Enter the private signing key password. If the private signing key is not encrypted, you are not required to enter a password.
4. Click **Upload**.

3

Add the Microsoft Office 365 Outlook Adapter Connection to an Integration

When you drag the Microsoft Office 365 Outlook Adapter into the invoke area of an integration, the Adapter Endpoint Configuration Wizard appears. This wizard guides you through configuration of Microsoft Office 365 Outlook Adapter endpoint properties.

These topics describe the wizard pages that guide you through configuration of the Microsoft Office 365 Outlook Adapter as an invoke in an integration. The Microsoft Office 365 Outlook Adapter cannot be used as a trigger in an integration.

Topics:

Basic Info Page

You can enter a name and description on the Basic Info page of each adapter in your integration.

Element	Description
What do you want to call your endpoint?	Provide a meaningful name so that others can understand the responsibilities of this connection. You can include English alphabetic characters, numbers, underscores, and hyphens in the name. You can't include the following characters: • No blank spaces (for example, `My Inbound Connection`) • No special characters (for example, `#;83&` or `righ(t)now4`) except underscores and hyphens • No multibyte characters
What does this endpoint do?	Enter an optional description of the connection's responsibilities. For example: `This connection receives an inbound request to synchronize account information with the cloud application.`

Invoke Operations Page

Select the Microsoft Graph REST API operation to perform.

The Microsoft Office 365 Outlook Adapter supports the selection of Microsoft Graph REST API operations from the **Select Operation** list.

Operation	Description
Get folders	Returns a folder collection or an individual folder from a mailbox.
Create a folder	Creates a folder in a mailbox.
Delete a message	Deletes a message in a mailbox.
Delete attachments	Returns a message collection or an individual message from a mailbox folder.
Send a new message	Creates and sends a new message.
Reply to a message	Returns a response to a message.
Forward a message	Forwards a message to a mailbox.
Get messages	Returns a message collection or an individual message from a mailbox folder.
Get messages of a folder	Returns a message collection or an individual message from a specific folder.
Move a message	Moves a message collection or an individual message from one mailbox folder to another.
Copy a message	Copies a message collection or an individual message from one mailbox folder to another.
Get an attachment collection	Returns a collection of attachments from a mailbox folder.
Get an attachment	Returns an individual attachment from a mailbox folder.
Create a file attachment	Creates an attachment and attaches it to a message in a mailbox folder.

Request Parameters Page

You can specify query parameters to control the amount of email message data returned by Microsoft Office 365 Outlook. These parameters reduce the chances of timeouts. The Request Parameters page is displayed if you select any of the Get operations on the Operations page (for example, **Get Messages**, **Get messages of a folder**, and others). The query parameters you select are displayed for mapping in the mapper.

If you prefer to continue receiving emails in one large collection, click **Continue** without selecting any query parameters. There are 500 emails returned for the Get messages/Get messages of a folder operations when you don't use query parameters, for backwards compatibility. When query parameters are used, the Microsoft Office 365 Outlook Adapter follows the Microsoft Graph API rules (defaults to 10 emails, with a maximum top value of 1000). If you want more than 1000 emails, you must update your integration to use a pagination algorithm.

Element	Description
Query Parameters	Use to search for specific query parameters within the **Available Query Parameters** box. As you type, the list dynamically updates to show only the parameters that match the input. For example, if you enter `t`, `to`, or `top`, only the matching parameter **top** appears in the list.

Element	Description
Available Query Parameters	• **filter**: Filters results (rows). • **search**: Returns results based on search criteria. • **select**: Filters properties (columns). • **top**: Sets the page size of results. • **_nextLink**: Provides pagination support. This parameter informs the client that there is more email message data to fetch. This parameter's value is a URL for the next page of data. • **count**: Retrieves the total count of matching resources. • **orderby**: Orders results. • **skip**: Indexes into a result set. It is also used by some APIs to implement paging and can be used together with **top** to manually page results. These query parameters are provided with the Microsoft Graph API. See Use query parameters to customize responses. Several use cases are provided that describe how to use these query parameters with the Microsoft Office 365 Outlook Adapter. See Implement Common Patterns Using the Microsoft Office 365 Outlook Adapter.
Selected Query Parameters	Displays the selected parameters. After completing this wizard, you set the values for these parameters in the mapper.

Summary Page

You can review the specified adapter configuration values on the Summary page.

Element	Description
Summary	Displays a summary of the configuration values you defined on previous pages of the wizard. The information that is displayed can vary by adapter. For some adapters, the selected business objects and operation name are displayed. For adapters for which a generated XSD file is provided, click the XSD link to view a read-only version of the file. To return to a previous page to update any values, click the appropriate tab in the left panel or click **Go back**. To cancel your configuration details, click **Cancel**.

4

Implement Common Patterns Using the Microsoft Office 365 Outlook Adapter

You can use the Microsoft Office 365 Outlook Adapter to implement the following common patterns.

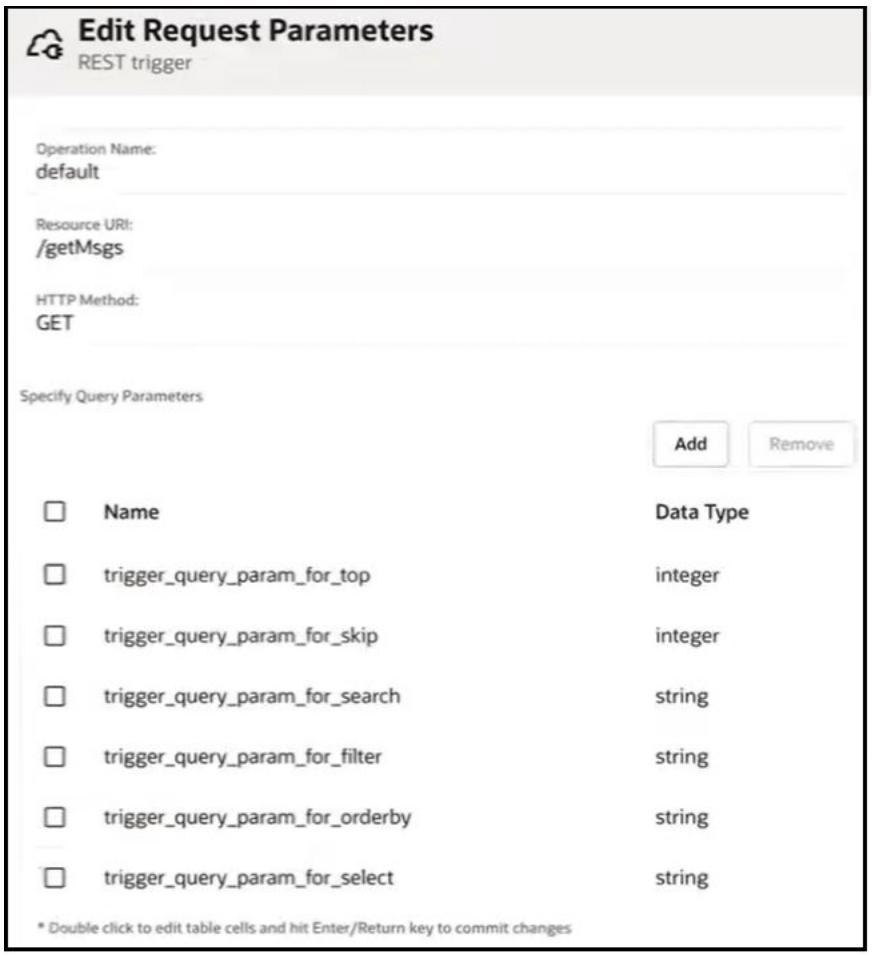
Topics:

Set Query Parameters to Filter the Return of Messages

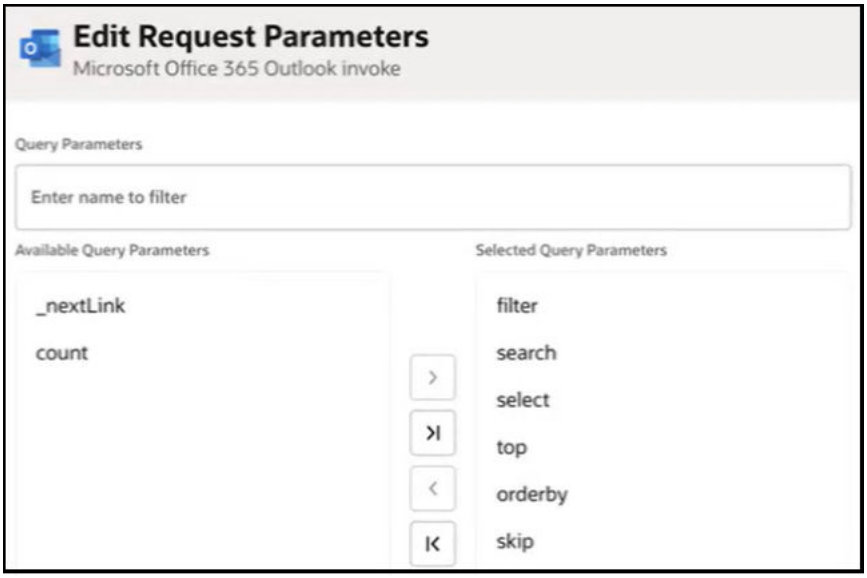
You use query parameters to filter the content of email messages returned by the Microsoft Office 365 Outlook Adapter.

This section provides a high-level overview of designing and running an integration that uses query parameters to filter the content of email messages returned by the Microsoft Office 365 Outlook Adapter.

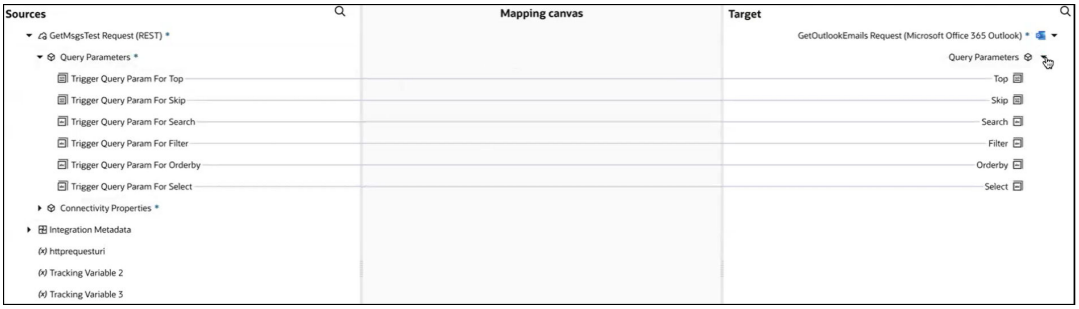
1. Create a REST Adapter trigger connection and Microsoft Office 365 Outlook Adapter invoke connection.
2. Create an application integration.
3. Drag the REST Adapter into the integration canvas and create the following query parameters:



4. Drag the Microsoft Office 365 Outlook Adapter into the integration canvas and configure it as follows.
   a. On the Basic Info page, enter the name.
   b. On the Operations page, select **Get messages** to return a collection of emails from your mail box.
   c. On the Request Parameters page, select the query parameters to use to filter the content of email messages returned by the Microsoft Office 365 Outlook Adapter.



5. Open the mapper and map the source REST Adapter query parameters to the target Microsoft Office 365 Outlook Adapter query parameters.



6. Drag a data stitch action below the Microsoft Office 365 Outlook Adapter to save the results of the Microsoft Office 365 Outlook Adapter operation in a variable.

7. Activate the integration.
8. Click the **Actions** ⋯ menu, and select **Run**.
9. Specify values for the following parameters and deselect any unused parameters, then click **Run**.

URI Parameter	Value	Result of Setting
trigger_query_param_for_top	2	Returns two emails.
trigger_query_param_for_search	`Enterprise`	Returns emails that include the word `Enterprise` somewhere in the object properties.
trigger_query_param_for_select	`subject, isRead, createdDateTime`	Returns emails that include these object properties.

When processing completes, the **Response** section shows two emails returned with the following content:

- The word `Enterprise`
- The `subject`, `isRead`, and `createdDateTime` object properties

Rerun the integration again with slightly different query parameters.

10. Deselect **trigger_query_param_for_search** and select **trigger_query_param_for_filter** this time.
11. Specify values for the following parameters, then click **Run**.

URI Parameter	Value	Result of Setting
trigger_query_param_for_top	2	Returns two emails.
trigger_query_param_for_filter	`isRead eq true`	Returns emails in which the `isRead` object property is set to `true`, meaning the email has been read.
trigger_query_param_for_select	`subject, isRead, createdDateTime`	Returns emails that include these object properties.

When processing completes, the **Response** section shows two emails returned with the following content:

- The `subject`, `isRead`, and `createdDateTime` object properties
- The `isRead` object property set to `true`

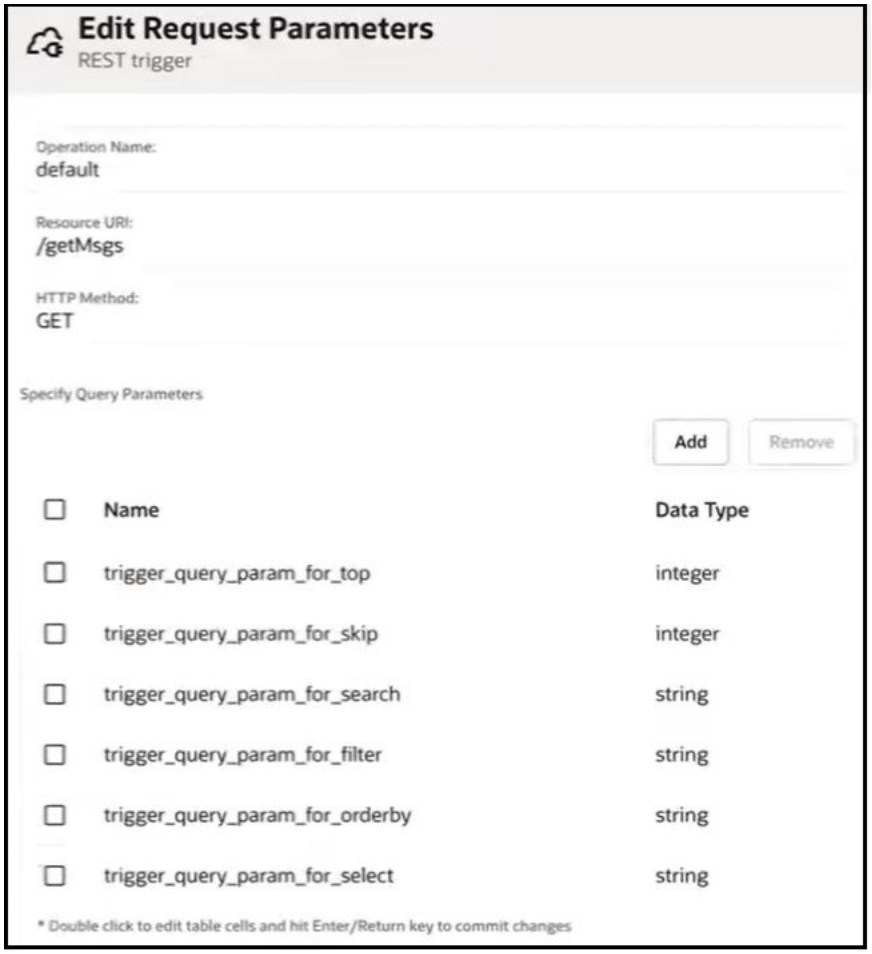
Set Pagination to Control the Number of Email Messages Returned at One Time

You can use pagination to control the number of email messages returned at one time by the Microsoft Office 365 Outlook Adapter.

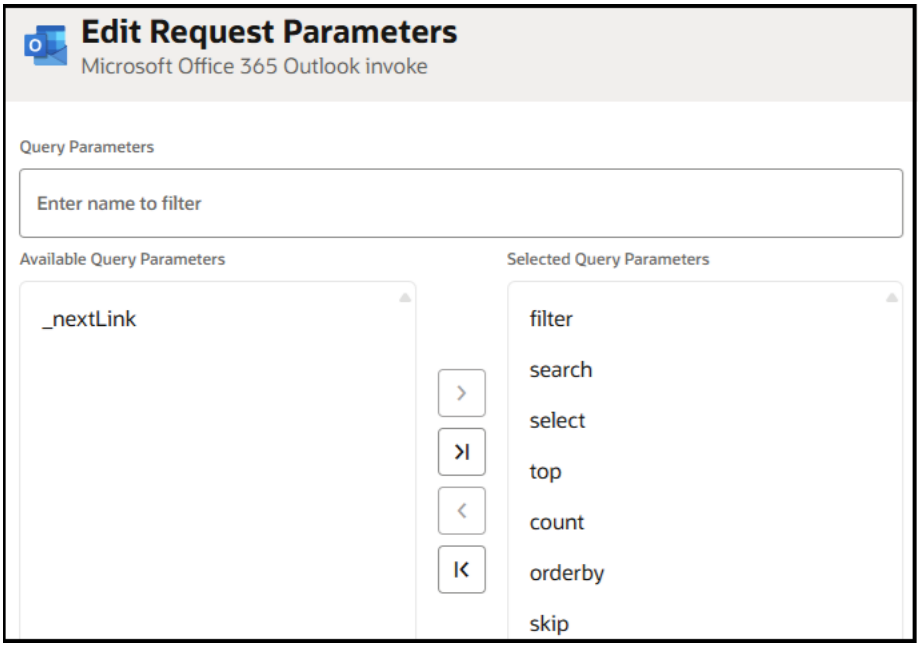
To perform pagination, Microsoft provides an **odata.nextLink** property as part of the response message. If defined during Microsoft Office 365 Outlook Adapter configuration, this property is set to a URL that links to the next page of results. This feature enables you to return the results in a controlled fashion. See Use query parameters to customize responses.

This section provides a high-level overview of designing and running an integration that uses pagination to control the number of email messages returned by the Microsoft Office 365 Outlook Adapter at one time.

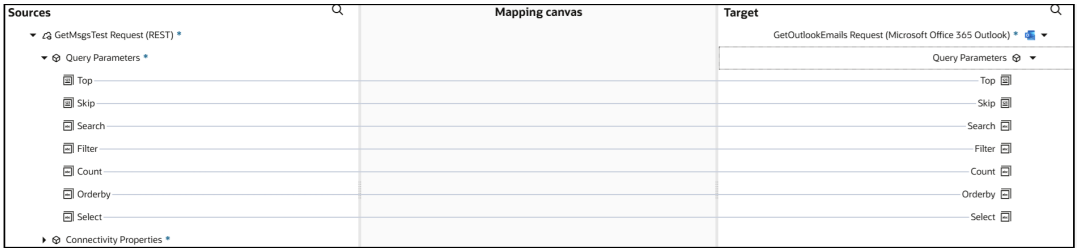
1. Create a REST Adapter trigger connection and Microsoft Office 365 Outlook Adapter invoke connection.
2. Create an application integration.
3. Drag the REST Adapter into the integration canvas and create the following query parameters:



4. Drag the Microsoft Office 365 Outlook Adapter into the integration canvas and configure it as follows.
   a. On the Basic Info page, enter the name.
   b. On the Operations page, select **Get messages** to return a collection of emails from your mail box.
   c. On the Request Parameters page, select the query parameters to use to filter the content of email messages returned by the Microsoft Office 365 Outlook Adapter.

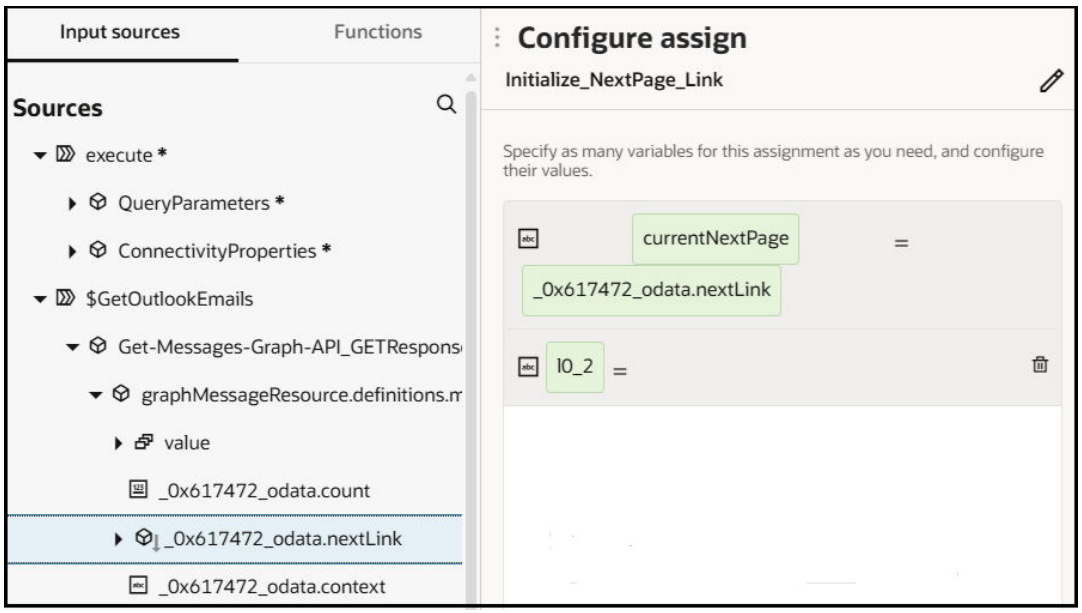


5. Open the mapper and map the source REST Adapter query parameters to the target Microsoft Office 365 Outlook Adapter query parameters.

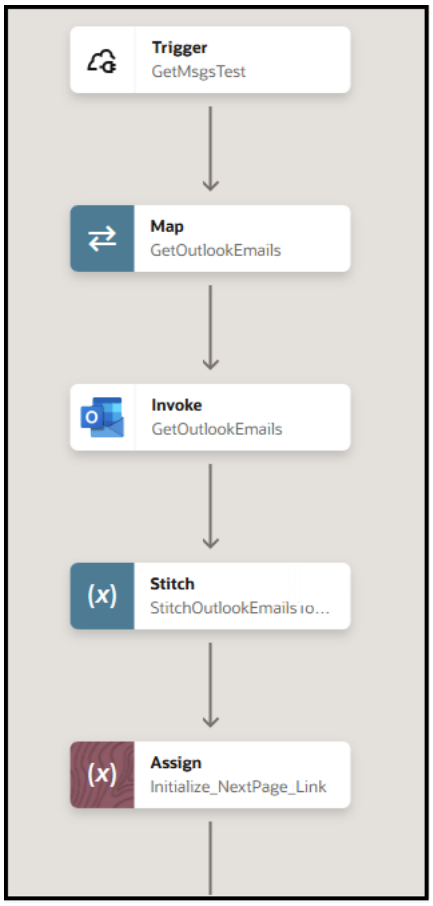


6. Drag a data stitch action below the Microsoft Office 365 Outlook Adapter to save the first set of results of the Microsoft Office 365 Outlook Adapter operation in a variable.

7. Create a variable in an assign action to save the **odata.nextLink** returned in the Microsoft Office 365 Outlook response.



The integration looks as follows.



8. Create a while action below the assign action to get the next set of email results. As long as the URL in the **currentNextPage** variable is not empty, the while action continues to iterate for more email messages from Microsoft. Using the query parameter only enables

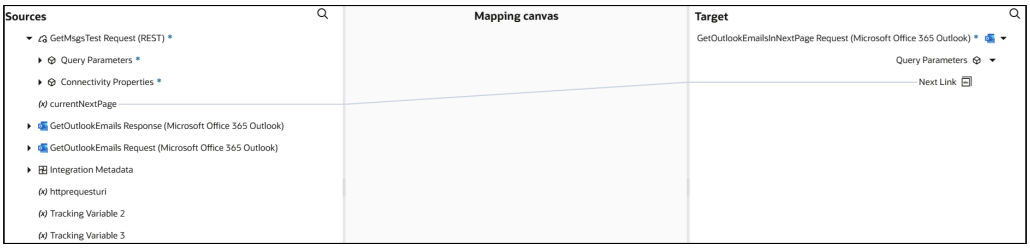
you to receive a maximum of 1000 email messages. However, using a while loop lets you iterate for more email messages in a controlled fashion using **currentNextPage**.

a. Create a second Microsoft Office 365 Outlook Adapter invoke connection.

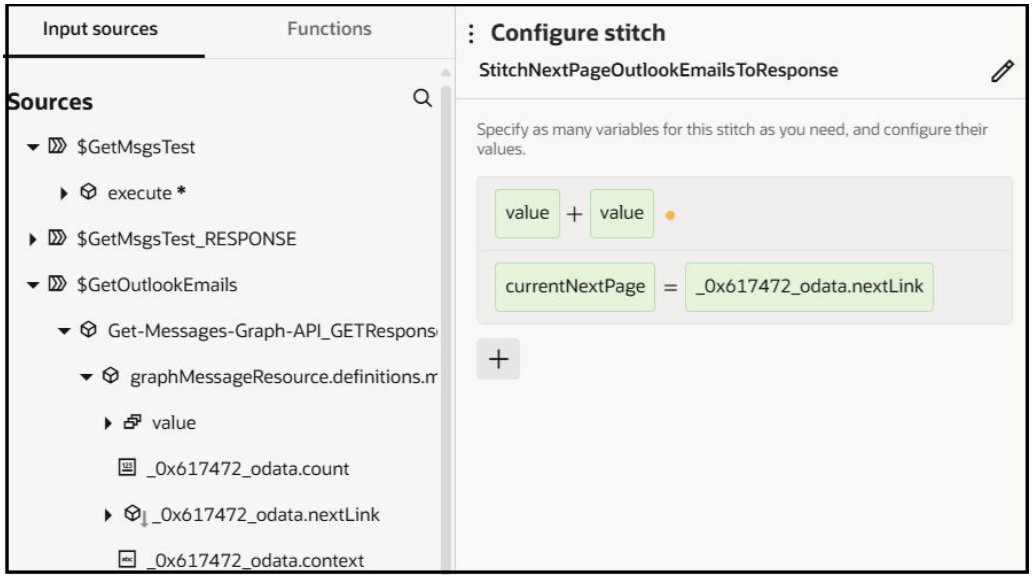
b. On the Operations page, select **Get messages**.

c. On the Configure Request page, select *only* the **_nextLink** query parameter. This parameter is for passing the **currentNextPage** variable created in the assign action.

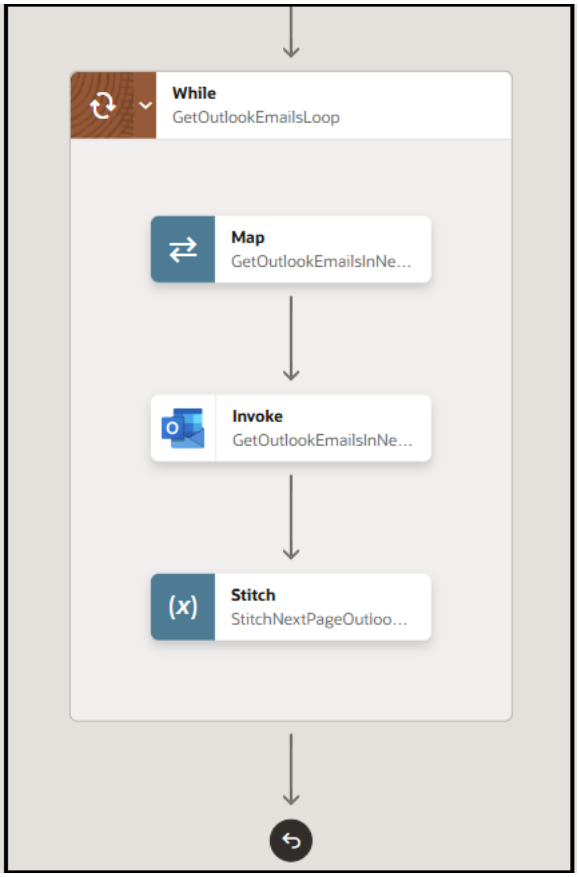
   The query parameters defined in the first Microsoft Office 365 Outlook Adapter do not require reselection in the second adapter. Those defined query parameters are automatically appended to the end of the **_nextLink** query parameter.



d. Create a second data stitch action to collect page results.



When complete, the while action portion of the integration looks as follows.



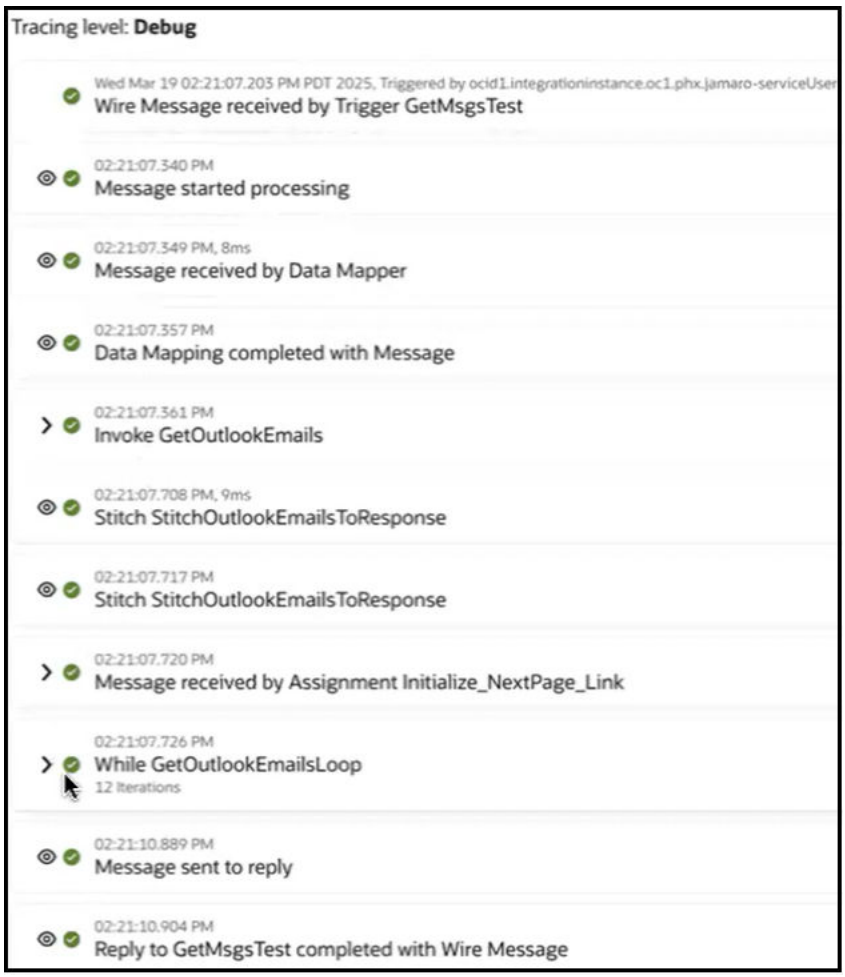
9. Activate the integration.
10. Click the **Actions** ⋮ menu, and select **Run**.
11. Specify values for the query parameters, then click **Run**:

URI Parameter	Value	Result of Setting
trigger_query_param_for_top	2	Returns two emails.
trigger_query_param_for_filter	`isRead eq true`	Returns emails that have been read.
trigger_query_param_for_select	`subject, isRead, createdDateTime`	Returns emails that include these object properties.
trigger_query_param_for_orderby	`createdDateTime`	Orders the results by the date and time created.

When processing completes, the **Response** section shows many results due to pagination. All results returned include the following:

- The `subject`, `isRead`, and `createdDateTime` object properties
- The `isRead` object property set to `true`
- The `odata.etag` and `id` internal parameters returned by the Microsoft APIs

12. View the activity stream. The while loop iterated twelve times to control the delivery of emails messages to the Microsoft Office 365 Outlook Adapter in twelve pages, instead of returning all email messages at the same time.



5

Troubleshoot the Microsoft Office 365 Outlook Adapter

Review these topics to learn about troubleshooting issues with the Microsoft Office 365 Outlook Adapter.

Topics:

Expired Refresh Token Causes an Invalid Token Error

The refresh token expires after 90 days of inactivity. Microsoft also reserves the right to expire the token at any time for security reasons. The following error message indicates that a refresh token has expired and cannot be exchanged for a new token.

```
<genericRestFault><errorCode>400</errorCode><errorPath><![CDATA[POST
https://login.microsoftonline.com/common/oauth2/v2.0/token returned a
response
status of 400 Bad Request]]></errorPath><instance><!
[CDATA[{"error":"invalid_grant",
"error_description":"AADSTS700082: The refresh token has expired due to
inactivity.
The token was issued on 2019-11-05T19:11:55.7631194Z and was inactive for
90.00:00:00.
\r\nTrace ID: b7b09af0-2391-4840-93ee-59b383031700\r\nCorrelation ID:
16ff8fa7-e78c-499a-b4f5-c18498b94f6c\r\nTimestamp: 2020-03-12 01:41:39Z",
. . .
. . .
. . .
```

If the refresh token has expired, perform the following steps:

1. Click **Provide Consent** again on the Connections page for the Microsoft Office 365 Outlook Adapter connection and go through the OAuth process.
   After completing this process, a new token is acquired.
2. Test and save the connection.
   After this, the token is renewed and the connection works as expected.

See Configurable token lifetimes in Azure Active Directory.

Unauthorized Security Setup

This issue occurs when an API request is made without access tokens. When an API request is submitted without access tokens, the error message `Unauthorized!! Security setup not done for account` is displayed.

Reset the Microsoft Office 365 Outlook Security Credentials

Solution: Repeat the procedure for setting the Microsoft Office 365 Outlook security credentials. See Configure Connection Security.

If resetting the email security credentials does not resolve the error message, make sure REST API functionality is enabled on the Microsoft Office 365 Outlook account and the scopes defined for the connection are correct. See Prerequisites for Creating a Connection and Configure Connection Security.

ContentType Passed in the Request Body Must Either be Text or HTML

As per the Microsoft documentation, the `ContentType` value passed in the request `Body` can either be `Text` or `HTML`.

Any other value passed in the request results in an error from Microsoft Office 365 Outlook such as the following:

```
POST https://outlook.office.com/api/v2.0/me/sendmail returned a response
status of 400 Bad Request

{"error":{"code":"RequestBodyRead","message":"Requested value 'text/xml' was
not found."}}
```