Oracle® Cloud

Using the Microsoft Email Adapter with Oracle Integration
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Preface

This guide describes how to configure the Microsoft Email Adapter as a connection in an integration in Oracle Integration.

Note:

The information in this guide applies to all of your Oracle Integration instances. It doesn't matter which edition you’re using, what features you have, or who manages your cloud environment. You'll find what you need here, including notes about any differences between the various flavors of Oracle Integration when necessary.

Topics

• Audience
• Documentation Accessibility
• Related Resources
• Conventions

Audience

This guide is intended for developers who want to use the Microsoft Email 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
  http://cloud.oracle.com
• Using Integrations in Oracle Integration
• Using the Oracle Mapper with Oracle Integration

Conventions

The following text conventions are used in this document:

<table>
<thead>
<tr>
<th>Convention</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>boldface</strong></td>
<td>Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.</td>
</tr>
<tr>
<td><em>italic</em></td>
<td>Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.</td>
</tr>
<tr>
<td>monospace</td>
<td>Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.</td>
</tr>
</tbody>
</table>
Understand the Microsoft Email Adapter

Review the following conceptual topics to learn about the Microsoft Email 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:
- Microsoft Email Adapter Capabilities
- What Application Version Is Supported?
- About Microsoft Email Adapter Use Cases
- Workflow to Create and Add a Microsoft Email Adapter Connection

Microsoft Email Adapter Capabilities

The Microsoft Email Adapter enables you to create an integration with a Microsoft Email application.

Use the Microsoft Email Adapter in an Oracle Integration integration to retrieve messages in Office 365 and Outlook.com. The Microsoft Email Adapter enables you to manage messages, manage folders, and so on.

The Microsoft Email Adapter is one of many predefined adapters included with Oracle Integration. You can configure the Microsoft Email 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 Oracle Integration Adapters Certification Matrix under section Oracle Integration Adapters Certification at the top of the page:

Oracle Integration Adapters Certification Matrix

About Microsoft Email Adapter Use Cases

The Microsoft Email Adapter can be used in the following scenarios.

- You can integrate a Microsoft email account with the Microsoft Email Adapter to return information such as emails, attachments, and folders
- You can integrate a Microsoft email account with the Microsoft Email Adapter to complete tasks such as sending email, creating new folders, deleting email and attachments, and creating new file attachments.
Workflow to Create and Add a Microsoft Email Adapter Connection

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

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<th>Description</th>
<th>More Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>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.</td>
<td>Create a Microsoft Email Adapter Connection</td>
</tr>
<tr>
<td>2</td>
<td>Create the integration. When you do this, you add trigger and invoke connections to the integration.</td>
<td>Create Integrations and Add the Microsoft Email Adapter Connection to an Integration</td>
</tr>
<tr>
<td>3</td>
<td>Map data between the trigger connection data structure and the invoke connection data structure.</td>
<td>Map Data of Using Integrations in Oracle Integration</td>
</tr>
<tr>
<td>4</td>
<td>(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).</td>
<td>Manage Lookups of Using Integrations in Oracle Integration</td>
</tr>
<tr>
<td>5</td>
<td>Activate the integration.</td>
<td>Manage Integrations of Using Integrations in Oracle Integration</td>
</tr>
<tr>
<td>6</td>
<td>Monitor the integration on the dashboard.</td>
<td>Monitor Integrations of Using Integrations in Oracle Integration</td>
</tr>
<tr>
<td>7</td>
<td>Track payload fields in messages during runtime.</td>
<td>Assign Business Identifiers for Tracking Fields in Messages and Manage Business Identifiers for Tracking Fields in Messages of Using Integrations in Oracle Integration</td>
</tr>
<tr>
<td>8</td>
<td>Manage errors at the integration level, connection level, or specific integration instance level.</td>
<td>Manage Errors of Using Integrations in Oracle Integration</td>
</tr>
</tbody>
</table>
Create a Microsoft Email 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
• Create a Connection
• Upload an SSL Certificate

Prerequisites for Creating a Connection

These are the prerequisites for creating a connection with the Microsoft Email Adapter.

Note:

You consume one connection per Microsoft Outlook account.

• Upload the trusted Microsoft Email public certificate.

Before creating an Microsoft Email Adapter connection, you must upload the trusted Microsoft Email public certificate to Oracle Integration. The Microsoft Email public certificate is created when you create the private key. Rename the public certificate file extension to .crt. To upload the certificate, see Upload an SSL Certificate.

• Create a Microsoft Outlook account.

2. Open a web browser and navigate to https://apps.dev.microsoft.com/.
3. Click Sign in with a Microsoft account and enter your email address and password.
4. Click Add an app.
5. Enter a name for the application and click Create.
6. Copy and save the application ID value that is displayed.
7. Click Generate New Password to generate a secret key.
8. Copy and save the newly-generated password. You are unable to see the password again after clicking Ok.
9. Click Add Platform.
10. Select Web.
11. **Enter** [https://server:port/icsapis/agent/oauth/callback](https://server:port/icsapis/agent/oauth/callback) in the **Enter a url** field.


12. Scroll to the bottom of the page and click **Save**.

   Connection prerequisites are now complete. You have the application ID and secret key that are required to create a connection in **Configure Connection Security**.

   - Understand the payload and scope to successfully use the API operations provided by the Microsoft Email Adapter.

     See the **Outlook Mail REST API**, which defines the minimum scope required and the payload to call the APIs.

### Create a Connection

The first step in creating an integration is to create the connections to the applications with which you want to share data.

1. In the navigation pane, click **Integrations**, then click **Connections**.

2. Click **Create**.

   **Note:**

   You can also create a connection in the integration canvas of:

   - An orchestrated integration (See Define Inbound Triggers and Outbound Invokes.)
   - A basic routing integration (See Add a Trigger (Source) Connection.)

The **Create Connection — Select Adapter** dialog is displayed.

3. Select an adapter from the dialog. You can also search for the type of adapter to use by entering a partial or full name in the **Search** field, and clicking **Search**.

   The **Create New Connection** dialog is displayed.

4. Enter the information to describe the connection.

   - Enter a meaningful name to help others find your connection when they begin to create their own integrations. The name you enter is automatically added in capital letters to the **Identifier** field. If you modify the identifier name, do not include a blank space (for example, **Sales Opportunity**).

   - Select the role (direction) in which to use this connection (trigger, invoke, or both). Only the roles supported by this adapter are displayed for selection. 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, then try to drag the adapter into the section you did not select, you
receive an error (for example, configure an Oracle Service Cloud (RightNow) 
Adapter as only an invoke, but drag the adapter to the trigger section).

- Enter an optional description of the connection.

5. Click Create.

Your connection is created and you are now ready to configure connection details, 
such as email contact, connection properties, security policies, connection login 
credentials, and (for certain connections) agent group.

Add a Contact Email

From the Connection Administrator section of the connection, you can add a contact 
email address for notifications.

1. In the Email Address field, enter an email address to receive email notifications 
when problems occur.

2. In the upper right corner, click Save.

Configure Connection Security

Enter connection information so your application can process requests.

1. Click Configure Credentials.

The Credentials dialog is displayed.

2. In the Security Policy field, note that Microsoft Mail Authorization Code 
Credentials is displayed by default and cannot be deselected. This security policy 
supports OAuth 2.0 authorization code flow credentials.

3. Enter the client ID (application ID) and client secret (password created after 
 clicking Generate New Password) values you recorded when you added your
application to your Microsoft Email account. See Prerequisites for Creating a Connection.

4. 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. For example:

   ```
   https://outlook.office.com/Mail.ReadWrite offline_access
   ```

5. Click **Provide Consent**. This enables Oracle Integration to interact with the Microsoft account used to create the application at `https://apps.dev.microsoft.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 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 is successfully configured.

1. In the upper right corner of the page, click **Test**.

2. If your adapter connection uses a WSDL, you are prompted 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.

   If successful, the following message is displayed and the progress indicator shows 100%.

   ```
   Connection `connection_name` was tested successfully.
   ```

3. If your connection was unsuccessful, an error message is displayed with details. Verify that the configuration details you entered are correct.

4. When complete, click **Save**, then click **Close**.

**Upload an SSL Certificate**

Certificates are used to validate outbound SSL connections. If you make an SSL connection in which the root certificate does not exist in Oracle Integration, an exception 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.

To upload an SSL certificate:

1. In the navigation pane, click **Integrations**, then click the < arrow next to **Designer**.

2. Click **Settings > Certificates**.

   All certificates currently uploaded to the trust store are displayed in the Certificates dialog. The **Filter By > Type** list displays the following details:

   - **Preinstalled**: Displays the certificates automatically installed in Oracle Integration. These certificates cannot be deleted.
   - **Uploaded**: Displays the certificates uploaded by individual users. These certificates can be deleted and updated.

3. Click **Upload** at the top of the page.

4. In the Upload Certificate dialog box, select the certificate type. Each certificate type enables Oracle Integration to connect with external services.

   - **Trust Certificate**: Use this option to upload a trust certificate.
     a. Enter a unique alias for the certificate.
     b. Click **Browse**, then select the trust file (for example, .cer or .crt) to upload.

   - **Message Protection Certificate**: Use this option to upload a keystore certificate with SAML token support. Create, read, update, and delete (CRUD) operations are supported on this type of certificate.
     a. Enter a unique alias for the certificate.
     b. Click **Browse**, then select the certificate file (.cer or .crt) to upload.

   - **Identity Certificate**: Use this option to upload a certificate for two-way SSL communication.
     a. Click **Browse**, then select the keystore file (.jks) to upload.
     b. Enter the password of the keystore being imported.
     c. Enter the comma-separated list of aliases from the keystore being imported.
     d. Enter the comma-separated list of passwords corresponding to key aliases.
     e. If you want to display the passwords in clear text, select **Show Key Password(s)**. This enables you to ensure that you are correctly entering a list of keystore passwords.

5. Click **Upload**.

6. Click the certificate name to view details such as the subject of the certificate, the issuer of the certificate, the date the certificate was issued, and the date the certificate expires.
Add the Microsoft Email Adapter Connection to an Integration

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

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

Topics:
- Basic Info Page
- Invoke Operations Page
- Summary Page

Basic Info Page

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

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>What do you want to call your endpoint?</td>
<td>Provide a meaningful name so that others can understand the responsibilities of this connection. You can include English alphabetic characters, numbers, underscores, and dashes in the name. You cannot include the following:</td>
</tr>
<tr>
<td></td>
<td>• Blank spaces (for example, My Inbound Connection)</td>
</tr>
<tr>
<td></td>
<td>• Special characters (for example, #;83 or righ(t)now4)</td>
</tr>
<tr>
<td></td>
<td>• Multibyte characters</td>
</tr>
<tr>
<td>What does this endpoint do?</td>
<td>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.</td>
</tr>
</tbody>
</table>

Invoke Operations Page

Select the Microsoft Email API operation to perform.
<table>
<thead>
<tr>
<th>Operation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Get folders</td>
<td>Returns a folder collection or an individual folder from a mailbox.</td>
</tr>
<tr>
<td>Create a folder</td>
<td>Creates a folder in a mailbox.</td>
</tr>
<tr>
<td>Delete a message</td>
<td>Deletes a message in a mailbox.</td>
</tr>
<tr>
<td>Delete attachments</td>
<td>Returns a message collection or an individual message from a mailbox folder.</td>
</tr>
<tr>
<td>Send a new message</td>
<td>Creates and sends a new message.</td>
</tr>
<tr>
<td>Reply to a message</td>
<td>Returns a response to a message.</td>
</tr>
<tr>
<td>Forward a message</td>
<td>Forwards a message to a mailbox.</td>
</tr>
<tr>
<td>Get messages</td>
<td>Returns a message collection or an individual message from a mailbox folder.</td>
</tr>
<tr>
<td>Get messages of a folder</td>
<td>Returns a message collection or an individual message from a specific folder.</td>
</tr>
<tr>
<td>Move a message</td>
<td>Moves a message collection or an individual message from one mailbox folder to another.</td>
</tr>
<tr>
<td>Copy a message</td>
<td>Copies a message collection or an individual message from one mailbox folder to another.</td>
</tr>
<tr>
<td>Get an attachment collection</td>
<td>Returns a collection of attachments from a mailbox folder.</td>
</tr>
<tr>
<td>Get an attachment</td>
<td>Returns an individual attachment from a mailbox folder.</td>
</tr>
<tr>
<td>Create a file attachment</td>
<td>Creates an attachment and attaches it to a message in a mailbox folder.</td>
</tr>
</tbody>
</table>

Summary Page

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

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summary</td>
<td>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 <strong>Back</strong>. Click <strong>Cancel</strong> to cancel your configuration details.</td>
</tr>
</tbody>
</table>
Troubleshoot the Microsoft Email Adapter

Review these topics to learn about troubleshooting issues with the Microsoft Email Adapter.

Topics:

- Unauthorized Security Setup
- Specify the Port Number with the Authorized Redirect URL
- ContentType Passed in the Request Body Must Either be Text or HTML

Additional integration troubleshooting information is provided. See Troubleshoot Oracle Integration in Using Integrations in Oracle Integration.

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 email security credentials

Solution: Repeat the procedure for setting the Microsoft email 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 Outlook account and the scopes defined for the connection are correct. See Prerequisites for Creating a Connection and Configure Connection Security.

Specify the Port Number with the Authorized Redirect URL

When configuring the authorized redirect URL, ensure that you specify the port number. For example:

https://host:443/icsapis/agent/oauth/callback

Not specifying the port number in the URL results in an error when configuring the adapter on the Connections page:

"Authorization Failed: String index out of range: -12"
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 Mail 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."}}