Oracle® Cloud

Using the Amazon Simple Queue Service (SQS) Adapter with Oracle Integration 3

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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 Amazon Simple Queue Service (SQS) Adapter

Review the following topics to learn about the Amazon Simple Queue Service (SQS) 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:

Amazon Simple Queue Service (SQS) Adapter Capabilities

The Amazon Simple Queue Service (SQS) Adapter enables you to create an integration in Oracle Integration that connects to the AWS application. You can configure the Amazon Simple Queue Service (SQS) Adapter for inbound polling to retrieve messages from an Amazon SQS queue at regular intervals and for invoke operations within an integration in Oracle Integration.

The Amazon Simple Queue Service (SQS) Adapter provides the following capabilities:

- Provides support to perform operations such as **Create**, **Delete**, **List**, **Purge**, **Tag**, and **Untag** on the queues.
- Enables modify and retrieve queue attributes such as **VisibilityTimeout**, **MaximumMessageSize**, **MessageRetentionPeriod**, **ReceiveMessageWaitTimeSeconds**, **RedriveAllowPolicy**, and so on through the operations **SetQueueAttributes** and **GetQueueAttributes**.
- Enables **Receive**, **Send**, and **Delete** messages from queues.
- Supports inbound polling to consume messages from Amazon SQS queues at configurable intervals, enabling event-driven integrations.
- Supports structured message processing with JSON, AVRO, and XML formats when consuming messages.
- Supports configuring dead lettering for handling undeliverable JSON and XML messages, requiring manual intervention to rectify and reprocess messages from the dead-letter queue.
- Utilizes AWS Signature Version 4 authentication for secure message retrieval.
- Allows adjustment of message visibility timeout through the **ChangeMessageVisibility** operation.
- Facilitates permissions management for queues through operations such as **AddPermission** and **RemovePermission**.
- Allows for listing queue tags to retrieve additional information about the queues.
- Allows listing dead letter source queues.

- Supports retrieving queue URLs using the queue name and Amazon account ID.
- Supports the connectivity agent for invoke operations, enabling secure communication with on-premises applications and private networks.
- Allows Message Move Tasks from the dead letter queue to the source queues or custom destination queue using the operations **StartMessageMoveTask**, **CancelMessageMoveTask**, and **ListMessageMoveTask**.
- Supports integrating with publicly-accessible resources (direct connectivity over the public internet) and private resources using the connectivity agent.
- Supports sending and receiving single data XML messages to and from queues.
- Supports batch operations for sending and receiving JSON messages.
- Supports dead lettering of messages while receiving JSON format messages.
- Supports sending and receiving messages in opaque (stream reference) format.
- Supports sending and receiving messages in AVRO format.
- Supports the Amazon Signature Version 4 security policy.

> **Note**
>
> When polling and receiving XML messages, if a JSON message is sent to the queue, it may result in an empty response when mapped to another adapter. This action causes the message to be deleted. You should validate the message format before sending it to prevent data loss.

The Amazon Simple Queue Service (SQS) Adapter is one of many predefined adapters included with Oracle Integration. See the Adapters page in the Oracle Help Center.

What Application Version Is Supported?

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

Workflow to Create and Add an Amazon Simple Queue Service (SQS) Adapter Connection to an Integration

You follow a very simple workflow to create a connection with an adapter and include the connection in an integration in Oracle Integration.

This table lists the workflow steps for both adapter tasks and overall integration tasks, and provides links to instructions for each step.

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.

Step	Description	More Information
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 an Amazon Simple Queue Service (SQS) Adapter Connection
3	Create the integration. When you do this, you add trigger (source) and invoke (target) connections to the integration.	Understand Integration Creation and Best Practices in *Using Integrations in Oracle Integration 3* and Add the Amazon Simple Queue Service (SQS) 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.	Activate an Integration in *Using Integrations in Oracle Integration 3*
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 an Amazon Simple Queue Service (SQS) 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

You must satisfy the following prerequisites to create a connection with the Amazon Simple Queue Service (SQS) Adapter:

- Create an AWS Account
- Create the Inline Policy
- Create an IAM User and Obtain the Access Key and Secret Access Key

Create an AWS Account

1. Go to https://aws.amazon.com.
2. Click **Create an AWS Account**.
3. Enter a root user email address.
4. Enter a name for your account in the **AWS account name** field.
5. Click **Verify email address**.
6. Once the email address is verified, create your root user password.
7. In the subsequent steps, enter your contact information and billing information details.
8. Complete the transaction to successfully create a root user account.
   You can now sign in to your AWS Account using the root user credentials.

> **Note**
>
> The root user possesses unrestricted access to AWS resources. It is necessary to create an Identity and Access Management (IAM) user.

Create the Inline Policy

1. Click **IAM** and select **Policies** under **Access management**.
2. Select **Attach policies directly** on the Set permissions page.
3. In the **Permissions policies** section, click **Create policy**.

4. On the Specify permissions page that opens, select **SQS** as a **Service**.
5. In the **Actions allowed** section, select the **ListQueues** check box as the **Access level** for your resource in SQS.

> **Note**
>
> This is the minimum permission required for you to create the connection. You can add more permissions as per the actions you want to invoke. For example, if you want to perform queue operations (such as creating or deleting queues), the appropriate inline policy (create queue or delete queue, respectively) must be added to the new or existing policy.

6. Click **Next**.
7. Enter the policy name and click **Create Policy**.
   The newly created policy is added to the list on the Policies Page.

Create an IAM User and Obtain the Access Key and Secret Access Key

1. Log in to an AWS account using the root user credential.
2. In the search bar, enter `IAM`.
3. Click **IAM** and select **Users** under **Access management**.
4. Click **Create user**.
5. Enter a name for the user and click **Next**.
6. On the Set Permissions page that appears, perform the following:
   a. Select **Attach policies directly** as the **Permissions Options**.
   b. Select the permission policies that you created for this user and click **Next**. See Create the Inline Policy .
   c. (Optional step) Set a permissions boundary under **Set permissions boundary**, and click **Next**.
7. (Optional step) Add tags to AWS resources.
8. Click **Create User**.
9. Navigate to **Dashboard**, then **Access management**, and then **Users**. The newly created user appears in the list.
10. Select the user in the **User name** column.
11. On the User Info page, select **Create access key** in the **Summary** section.
12. Under **Access key best practices & alternatives**, select the use case according to your requirement, and click **Next**.
13. (Optional step) Provide a description tag, if required, and click **Next**.
    The `Access key created` message appears.

    The **Access Key** and **Secret Access Key** are displayed.
14. Copy the access key ID and secret key.

> **Note**
>
> You must enter the access key in the **Access Key** field and the secret key in the **Secret Access Key** field on the Connections page. See Create the Inline Policy .

15. Alternatively, you can click **Download .csv file** to download a file that contains the access key ID and the secret key.
16. Click **Done**.

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.
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`).

Element	Description
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 Properties

Enter connection information so your application can process requests.

1. Go to the **Properties** section.

2. In the **AWS Region** field, enter the region you selected in the AWS Management console. For example: `ap-south-1`.

> **Note**
>
> AWS regions are various geographical locations where the AWS infrastructure is located. Select the nearest possible area to minimize delays or the unavailability of resources.

Configure Connection Security

Configure security for your Amazon Simple Queue Service (SQS) Adapter connection.

1. Go to the **Security** section.
2. In the **Access Key** field, enter the access key obtained after performing the prerequisite steps. See Prerequisites for Creating a Connection.
3. In the **Secret Key** field, enter the secret key obtained after performing the prerequisite steps. See Prerequisites for Creating a Connection.
4. In the **AWS Region** field, select the same AWS region that you entered in the **Properties** section. See Configure Connection Properties.

Configure the Endpoint Access Type

Configure access to your endpoint. Depending on the capabilities of the adapter you are configuring, options may appear to configure access to the public internet, to a private endpoint, or to an on-premises service hosted behind a fire wall.

Select the Endpoint Access Type

1. Go to the **Access type** section.
2. Select the option for accessing your endpoint.

Option	This Option Appears If Your Adapter Supports ...
Public gateway	Connections to endpoints using the public internet.
Connectivity agent	Connections to on-premises endpoints through the connectivity agent. a. Click **Associate agent group**. The Associate agent group panel appears. b. Select the agent group, and click **Use**. To configure an agent group, you must download and install the on-premises connectivity agent. See Download and Run the Connectivity Agent Installer and About Creating Hybrid Integrations Using Oracle Integration in *Using Integrations in Oracle Integration 3*.

Save the Connection Before Testing

Once you enter the configuration details, including connection and security properties, ensure that you save the connection before testing it.

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**.

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Add the Amazon Simple Queue Service (SQS) Adapter Connection to an Integration

When you drag the Amazon Simple Queue Service (SQS) Adapter into the trigger or invoke area of an integration, the Adapter Endpoint Configuration Wizard is invoked. This wizard guides you through configuration of the Amazon Simple Queue Service (SQS) Adapter endpoint properties.

The following sections describe the wizard pages that guide you through configuration of the Amazon Simple Queue Service (SQS) Adapter as a trigger or an invoke 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.`

Trigger Configuration Page

Enter the following details on the Configuration page.

Element	Description
Select Queue	Select a specific queue from the list.
Select Format	Select the notification format (that is, **Sample JSON**, **Sample XML**, or **AVRO Schema**). Upon selecting **Sample XML**, the **Enable XML Namespace** field is displayed. Upon selecting **Enable XML Namespace**, the **Enter XML Namespace** option is displayed. You must provide the valid XML namespace. For example: `http://www.oracleawssns.com`
Provide JSON Sample /Provide XML Sample / Provide AVRO Schema	Based on the type of format selected, enter sample JSON, sample XML, or AVRO schema to describe the structure of data.
Select dead letter queue	Select the Amazon SQS dead-letter queue (DLQ) to capture undeliverable JSON and XML messages **Note**: If you select **FIFO** as the dead letter queue, a group ID is required.
Max Number of Messages	Enter the maximum message count.
Enable decoding	Select to enable message decoding.
Configure Message Attributes Names	Configure the custom message attributes name. Click **Add** to add a custom message attributes name and description. Click **Remove** to remove the custom message attributes name.
Configure Message System Attribute Names	Select the check box and an option from the list. **Available Options**: Displays a list of options for selection such as **Policy**, **Visibility Timeout**, and so on. **Selected Options**: Displays the list of options you have selected.

Invoke Basic Info Page

Specify a name, description, resource, and action type on the Basic Info page.

Element	Description
What do you want to call your endpoint?	Provide a meaningful name so that others can understand the connection. For example, if you are creating a database connection for adding new employee data, you may want to name it `CreateEmployeeInDB`. You can include English alphabetic characters, numbers, underscores, and dashes in the name. You cannot include the following: • Blank spaces (for example, `My DB Connection`) • Special characters (for example, `#;83&` or `righ(t)now4`) except underscores and hyphens • Multibyte characters
What does this endpoint do?	Enter an optional description of the connection's responsibilities.

Element	Description
Select Resource	Select a resource: • **Queue Administration** • **Message** • **Message Move Task** • **Permission**
Action	Select an action to perform, such as **List Dead Letter Source Queues**, **Create Queue**, **Send Message**, **Send Message Batch**, or **Add Permission** for the selected resource. The actions available for selection are based on the selected resource.

Invoke Configuration Page

Enter the following details on the Configuration page.

- List Dead Letter Source Queue, Delete Queue, Purge Queue, Tag Queue, Untag Queue, List Queue Tags, Delete Message, or Change Message Visibility Action
- Get Queue Attributes Action
- Set Queue Attributes Action
- Get Queue Url Action
- Create Queue Action
- Receive Messages Action
- Send Message Action
- List Message Move Tasks Action
- Start Message Move Task Action
- Add Permission Action
- Remove Permission Action

List Dead Letter Source Queue, Delete Queue, Purge Queue, Tag Queue, Untag Queue, List Queue Tags, Delete Message, or Change Message Visibility Action

If you selected the **List Dead Letter Source Queues**, **Delete Queue**, **Purge Queue**, **Tag Queue**, **Untag Queue**, **List Queue Tags**, **Delete Message**, or **Change Message Visibility** action on the Basic Info page, the following options are displayed.

Element	Description
Select Queue	Select a specific queue from the list.

Get Queue Attributes Action

If you selected the **Get Queue Attributes** action on the Basic Info page, the following options are displayed.

Element	Description
Select Queue	Select a specific queue from the list.

Element	Description
Available Options	Displays a list of options for selection, such as **Policy**, **Visibility Timeout**, and so on.
Selected Options	Displays the list of options you have selected.

Set Queue Attributes Action

If you selected the **Set Queue Attributes** action on the Basic Info page, the following options are displayed.

Element	Description
Select Queue	Select a specific queue from the list.
Configuration	• **Visibility Timeout**: The period a message stays hidden from other consumers after retrieval from an Amazon SQS queue before becoming visible again for processing. The value should be between `0` to `43200` seconds. • **Delivery Delay**: The period between sending a message to an Amazon SQS queue and its availability for retrieval, allowing for scheduled delivery or time-sensitive processing. The value should be between `0` to `900` seconds. • **Receive Message Wait Time**: The maximum time an Amazon SQS client waits for messages to become available in a queue before returning an empty response, optimizing polling frequency and reducing unnecessary requests. The value should be between `0` to `20` seconds. • **Message Retention Period**: The duration for which messages are retained in an Amazon SQS queue before being automatically deleted. The value should be between `60` to `1209600` seconds. • **Maximum Message Size**: The largest allowable size, in bytes, for a single message that can be sent or received in an Amazon SQS queue. The value should be between `1024` to `2621444` bytes.

Access Policy	Provide a JSON access policy. For example:
	
	`{`
	`  "Version": "<policy_version>",`
	`  "Id": "<policy_ID>",`
	`  "Statement": [`
	`  {`
	`  "Sid": "<statement_ID>",`
	`  "Effect": "<allow_or_deny>",`
	`  "Principal": {`
	`  "AWS": "<AWS_account_ID>"`
	`  },`
	`  "Action": [`
	`  "<action>"`
	`  ],`
	`  "Resource":`
	`"arn:aws:sqs:<region>:<AWS_account_ID>:<queue_name>"`
	`  }`
	`  ]`
	`}`

Element	Description
Redrive Allow Policy	Select the check box and choose an option from the following: • **Allow All** • **By Queue** • **Deny All**
Dead Letter Queue	Select the check box and specify a value for the following: • **Queue Arn**: Enter a dead queue type. • **Max Receive Count**: Enter a value between `1` and `1000`.

Get Queue Url Action

If you selected the **Get Queue Url** action on the Basic Info page, the following options are displayed.

Element	Description
Queue Name	The name of the queue whose URL must be fetched. A maximum of 80 characters is allowed. Valid values are alphanumeric characters, hyphens (`-`), and underscores (`_`). **Note**: Queue URLs and names are case sensitive.
Queue Owner AWS AccountId	Displays the Amazon Web Services account ID of the account that created the queue.

Create Queue Action

If you selected **Create Queue** on the Basic Info page, the following options are displayed.

Element	Description
Queue Name	Enter a name for the queue.
Type	Select the type of queue: • **Standard** • **FIFO**
Configuration	• **Visibility Timeout**: The period a message stays hidden from other consumers after retrieval from an Amazon SQS queue before becoming visible again for processing. The value should be between `0` to `43200` seconds. • **Delivery Delay**: The period between sending a message to an Amazon SQS queue and its availability for retrieval, allowing for scheduled delivery or time-sensitive processing. The value should be between `0` to `900` seconds. • **Receive Message Wait Time**: The maximum time an Amazon SQS client waits for messages to become available in a queue before returning an empty response, optimizing polling frequency and reducing unnecessary requests. The value should be between `0` to `20` seconds. • **Message Retention Period**: The duration for which messages are retained in an Amazon SQS queue before being automatically deleted. The value should be between `60` to `1209600` seconds. • **Maximum Message Size**: The largest allowable size, in bytes, for a single message that can be sent or received in an Amazon SQS queue. The value should be between `1024` to `2621444` bytes.

Element	Description

Access Policy	Provide a JSON access policy. For example:
	
	`{`
	`  "Version": "<policy_version>",`
	`  "Id": "<policy_ID>",`
	`  "Statement": [`
	`  {`
	`  "Sid": "<statement_ID>",`
	`  "Effect": "<allow_or_deny>",`
	`  "Principal": {`
	`  "AWS": "<AWS_account_ID>"`
	`  },`
	`  "Action": [`
	`  "<action>"`
	`  ],`
	`  "Resource":`
	`"arn:aws:sqs:<region>:<AWS_account_ID>:<queue_name>"`
	`  }`
	`  ]`
	`}`

Redrive Allow Policy	Select the check box and choose an option from the following: • **Allow All** • **By Queue** • **Deny All**
Dead Letter Queue	Select the check box and specify a value for the following: • **Queue Arn**: Enter a dead queue type. • **Max Receive Count**: Enter a value between 1 and 1000.

Receive Messages Action

If you selected the **Receive Messages** action on the Basic Info page, the following options are displayed.

> **Note**
>
> Once a message is processed, it automatically gets removed from the queue.

Element	Description
Select Queue	Select a specific queue from the list.
Do you want to specify message structure?	• Click **Yes** to provide the **JSON Sample**, **XML Sample**, or **AVRO Schema** and receive the message in JSON, XML, or AVRO format. • Click **No** to receive the message in opaque (stream reference) format.

Element	Description
How would you want to specify the message structure?	Select the message format (that is, either **JSON Sample**, **XML Sample**, or **AVRO Schema**). Upon selecting **XML Sample**, the **Enable XML Namespace** field is displayed. Upon selecting **Enable XML Namespace**, the **Enter XML Namespace** option is displayed. You must provide the valid XML namespace. For example: `http://www.oracleawssns.com`
Provide JSON Sample/ Provide XML Sample	Based on the type of format selected, enter sample JSON or XML to describe the structure of data. **Note**: If you select XML format, you must enter the XML namespace. For example: `https://namespace.com`
Select dead letter queue	Select the Amazon SQS dead-letter queue (DLQ) to capture undeliverable JSON and XML messages **Note**: If you select **FIFO** as the dead letter queue, then a group ID is required.
Enable decoding	Select to enable message decoding.
Configure Message Attributes Names	Configure the custom message attributes name. Click **Add** to add a custom message attributes name and description. Click **Remove** to remove the custom message attributes name.
Configure Message System Attribute Names	Select the check box and one or more options from the list. • **Available Options**: Displays a list of options for selection such as **Policy**, **Visibility Timeout**, and so on. • **Selected Options**: Displays the list of options you have selected.

Send Message Action

If you selected the **Send Message** action on the Basic Info page, the following options are displayed.

Element	Description
Select Queue	Select a specific queue from the list.
Do you want to specify the message structure?	• Click **Yes** to provide the **JSON Sample**, **XML Sample**, or **AVRO Schema** and publish the message in JSON, XML, or AVRO format. • Click **No** to publish the message in opaque (stream reference) format.
How would you like to specify the message structure?	Select **Sample XML**, **Sample JSON**, or **AVRO Schema** as the format from the drop-down list.
Provide XML namespace	This field appears only if you select the XML format. **Note**: Only a single namespace is supported.
Provide JSON Sample/ Provide XML Sample/ Provide AVRO Schema	Provide the notification sample.

Element	Description
Enable encoding	Enable this feature to encode messages using base64 for enhanced compatibility and integrity. **Note**: For the **AVRO Schema** selection, **Enable Encoding** is not available.
Configure Message Attributes	Configure the custom message attributes name. Click **Add** to add a custom message attributes name and description. Click **Remove** to remove the custom message attributes name.
Opaque (Stream Reference)	Publishes the files of any format (JSON, XML, PNG, Audio, Video, JPEG, PDF, Docs, CSV, and more) to the specified queue.

List Message Move Tasks Action

If you selected the **List Message Move Tasks** action on the Basic Info page, the following options are displayed.

Element	Description
Source ARN	Enter a dead letter source queue ARN.

Start Message Move Task Action

If you selected the **Start Message Move Task** action on the Basic Info page, the following options are displayed.

Element	Description
Source ARN	Enter a dead letter source queue ARN.
Destination ARN	Enter a destination ARN.

Add Permission Action

If you selected the **Add Permission** action on the Basic Info page, the following options are displayed.

Element	Description
Select Queue	Select a specific queue from the list.
Select Permissions	Select permissions from the following: • **Send Message** • **Delete Message** • **Receive Message** • **Change Message Visibility** • **List Dead Letter Source Queues** • **Purge Queue** • **Get Queue Attributes** • **Get Queue Url**

Remove Permission Action

If you selected the **Remove Permission** action on the Basic Info page, the following options are displayed.

Element	Description
Select Queue	Select a specific queue from the list.

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 Amazon Simple Queue Service (SQS) Adapter

You can use the Amazon Simple Queue Service (SQS) Adapter to implement the following common patterns.

Topics:

Create a Customer in Shopify Using SQS Message Polling

This use case describes how a customer is created in Shopify when a message is sent to an AWS SQS queue by an API or application. SQS polling triggers the integration workflow, which maps the message data and invokes the Shopify API to create the customer.

The following adapters and their operations are used in this use case:

- Amazon Simple Queue Service (SQS) Adapter (configured as a trigger connection): Triggers the integration by polling an SQS queue.
- Shopify Adapter (configured as an invoke connection): Invokes the Shopify API to create a new customer.

This implementation pattern provides an overview of the steps.

1. Create an Amazon Simple Queue Service (SQS) Adapter trigger connection and Shopify Adapter invoke connection.
2. Create an application integration.
3. Drag the Amazon Simple Queue Service (SQS) Adapter into the integration canvas as a trigger connection.
4. Configure the Amazon Simple Queue Service (SQS) Adapter endpoint as follows:
    a. On the Basic Info Page, provide a meaningful name.
    b. On the Configuration page, select the queue on which you want to receive the message.
    c. Select the message format and provide a message sample.
    d. Choose **Select dead letter queue** to capture undelivered JSON and XML messages.
    e. If you select your dead letter queue as FIFO dead letter queue, enter the group ID.
    f. Enter the maximum number of messages (up to 10) that you want to receive.

> **Note**
>
> You can specify the message count only for JSON format. In case of AVRO, the queue can receive only one message at a time.

g. If needed, enable message encoding, configure message attribute names, or configure message system attribute names.

h. On the Summary page, review and confirm your selections.

5. Drag the Shopify Adapter into the integration canvas as an invoke connection.

6. Configure the Shopify Adapter endpoint as follows:

   a. On the Basic Info page, provide a meaningful name.

   b. On the Actions page, select **Create** as the action.

   c. On the Operations page, select **Customer** as the module and **Create Customer** as the operation.

   d. On the Summary Page, review and confirm your selections.

7. In the mapper, map the message body to the Shopify customer fields.

8. Once complete, activate the integration.

   The completed integration look as follows:

Once activated, the integration is triggered whenever a message is sent to the SQS queue (through an API or application). The workflow processes the message and creates a new customer in Shopify.

Send Product Data to Amazon SQS When a New Product is Created in Shopify

This use case describes how to send product data to an Amazon SQS queue whenever a product is created in a Shopify application using Oracle Integration. The product data can then be consumed from the Amazon SQS queue by downstream systems.

The following adapters and their operations are used in this use case:

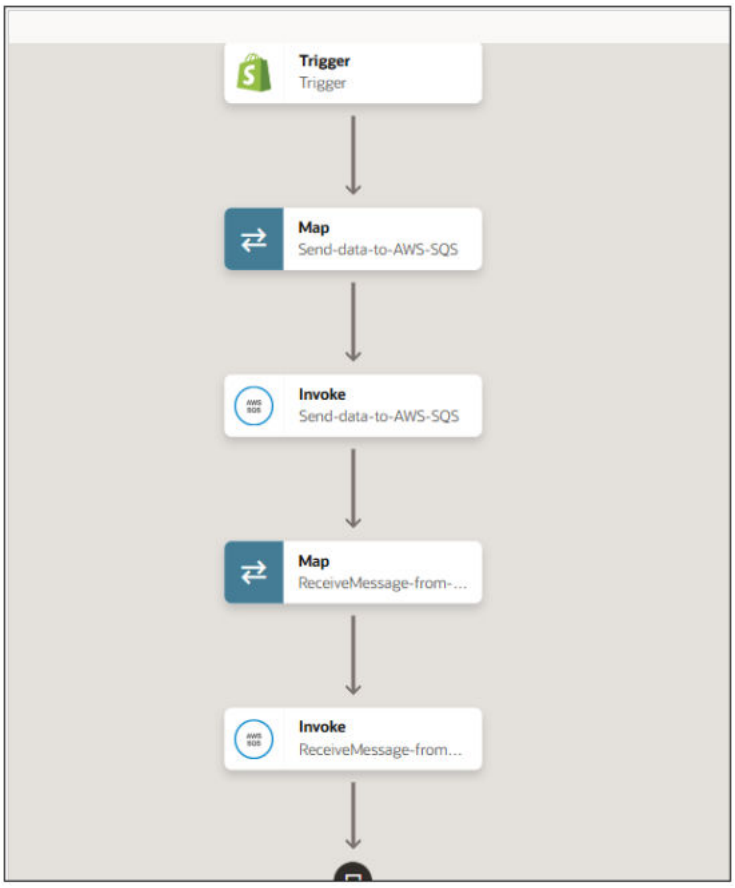
- Shopify Adapter: (configured as a trigger connection) Captures the Product Create event in Shopify.
- Amazon Simple Queue Service (SQS) Adapter: (configured as an invoke connection) Performs the following operations:
  - Send operation: Sends product data to an AWS SQS queue.
  - Receive operation: Reads messages from an AWS SQS queue.

This implementation pattern provides an overview of the steps:

1. Create a Shopify Adapter trigger connection and an Amazon Simple Queue Service (SQS) Adapter invoke connection.
2. Create an application integration.
3. Drag the Shopify Adapter into the integration canvas as a trigger connection.
4. Configure the Shopify Adapter endpoint as follows:
   a. On the Basic Info page, provide an endpoint name.
   b. On the Events page, select **Products** as the module and **Product Create** as the event.
   c. On the Summary page, review and confirm your selections.
5. Drag the Amazon Simple Queue Service (SQS) Adapter into the integration canvas as an invoke connection.
6. Configure the Amazon Simple Queue Service (SQS) Adapter endpoint as follows:
   a. On the Basic Info page, provide an endpoint name.
   b. Select **Message** as the resource and **Send Message** as the action.
   c. On the Send Message Actions page, specify the message structure.
   d. On the Summary Page, review and confirm your selections.
7. Use the mapper to map the product data from the Shopify trigger to the SQS message structure.
8. Drag another Amazon Simple Queue Service (SQS) Adapter into the integration canvas as a second invoke connection.
9. Configure the Amazon Simple Queue Service (SQS) Adapter endpoint as follows:
   a. On the Basic Info page, provide a meaningful name for the endpoint.
   b. Select **Message** as the resource and **Receive Messages** as the action.
   c. On the Receive Messages Actions page, specify the message structure.
   d. On the Summary Page, review and confirm your selections.

10. When complete, activate the integration.

    The completed integration looks as follows:



Once activated, this integration is automatically triggered when a new product is created in Shopify. The product details are sent to the AWS SQS queue and then read from the queue using the Amazon Simple Queue Service (SQS) Adapter.