

Oracle® Cloud

Using the MLLP Adapter with Oracle Integration 3



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Preface

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

**Note:**

The use of this adapter may differ depending on the features you have, or whether your instance was provisioned using Standard or Enterprise edition. These differences are noted throughout this guide.

Topics:

- [Audience](#)
- [Documentation Accessibility](#)
- [Diversity and Inclusion](#)
- [Related Resources](#)
- [Conventions](#)

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 <https://www.oracle.com/corporate/accessibility/>.

Access to Oracle Support

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Diversity and Inclusion

Oracle is fully committed to diversity and inclusion. Oracle respects and values having a diverse workforce that increases thought leadership and innovation. As part of our initiative to build a more inclusive culture that positively impacts our employees, customers, and partners, we are working to remove insensitive terms from our products and documentation. We are also mindful of the necessity to maintain compatibility with our customers' existing technologies and

the need to ensure continuity of service as Oracle's offerings and industry standards evolve. Because of these technical constraints, our effort to remove insensitive terms is ongoing and will take time and external cooperation.

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.
<i>italic</i>	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 MLLP Adapter

Review the following topics to learn about the MLLP 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:

- [MLLP Adapter Capabilities](#)
- [MLLP Adapter Restrictions](#)
- [Workflow to Create and Add an MLLP Adapter Connection to an Integration](#)

MLLP Adapter Capabilities

The MLLP Adapter provides native transport protocol support for Health Level 7 (HL7) messages in Oracle Integration. MLLP is a TCP/IP protocol used to transport HL7 messages between applications.

The MLLP Adapter provides the following capabilities:

- Works in conjunction with the healthcare action to provide the following integration support:
 - Incoming (trigger) - For scenarios in which the healthcare action translates an HL7 formatted-message to an XML message understood by Oracle Integration.
 - Outgoing (invoke) - For scenarios in which the healthcare action translates an XML message to an HL7-formatted message understood by the HL7 application.

See *Add the Healthcare Action to an Integration* in *Using Oracle Integration for Healthcare in Oracle Integration 3*.

- Runs directly in the connectivity agent to support connectivity to remote healthcare applications such as emergency medical records (EMRs), hospital management systems, laboratory information systems, and others. Unlike other Oracle Integration adapters, the MLLP Adapter does not run in Oracle Integration.

When configuring an MLLP connection, the **Access Type** field can only be set to **Connectivity agent**. At this time, the MLLP Adapter does not support the **Private endpoint** and **Public gateway** options.

- Supports transient (connect, transmit, and disconnect) and permanent connections.
- Supports multiple inbound/outbound TCP port configurations.

The MLLP Adapter is one of many predefined adapters included with Oracle Integration. You can configure the MLLP Adapter as trigger or an invoke connection in an integration in Oracle Integration.

MLLP Adapter Restrictions

Note the following MLLP Adapter restrictions.

- The MLLP Adapter must run directly inside the connectivity agent to listen for incoming and outgoing requests. It cannot run on the public gateway outside of the connectivity agent.
- The MLLP Adapter only works in the context of HL7.
- The MLLP Adapter is visible in the Create connection panel regardless of whether your Oracle Integration instance includes the Healthcare edition. The MLLP Adapter is unusable without the Healthcare edition.



Note:

There are overall service limits for Oracle Integration. A service limit is the quota or allowance set on a resource. See [Service Limits](#).

Workflow to Create and Add an MLLP 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	Install the connectivity agent. The MLLP Adapter runs directly in the connectivity agent to send and receive messages to and from HL7 endpoints.	Download and Run the Connectivity Agent Installer in <i>Using Integrations in Oracle Integration 3</i>
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 MLLP 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 <i>Using Integrations in Oracle Integration 3</i> and Add the MLLP Adapter Connection to an Integration
4	Map data between the trigger connection data structure and the invoke connection data structure.	Map Data in <i>Using Integrations in Oracle Integration 3</i>
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 <i>Using Integrations in Oracle Integration 3</i>
6	Activate the integration.	Activate an Integration in <i>Using Integrations in Oracle Integration 3</i>
7	Monitor the integration on the dashboard.	Monitor Integrations During Runtime in <i>Using Integrations in Oracle Integration 3</i>

Step	Description	More Information
8	Track payload fields in messages during runtime.	Assign Business Identifiers for Tracking Fields in Messages and Track Integration Instances in <i>Using Integrations in Oracle Integration 3</i>
9	Manage errors at the integration level, connection level, or specific integration instance level.	Manage Errors in <i>Using Integrations in Oracle Integration 3</i>

2

Create an MLLP 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](#)

Prerequisites for Creating a Connection

You must satisfy the following prerequisites to create a connection with the MLLP Adapter :

- For trigger connections, know the port on which to listen for inbound messages.
- For invoke connections, know the IP and port of the host of the application to which to send the outbound message.

Create a Connection

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

To create a connection in Oracle Integration:

1. In the navigation pane, click **Design**, then **Connections**.
2. Click **Create**.

Note:

You can also create a connection in the integration canvas. See Define Inbound Triggers and Outbound Invokes.

3. In the Create connection panel, 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.
4. Enter the information that describes this connection.
 - a. 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, don't include blank spaces (for example, SALES OPPORTUNITY).
 - b. Select the role (direction) in which to use this connection (trigger, invoke, or both). Only the roles supported by the 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, 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.

- c. Enter optional keywords (tags). You can search on the connection keywords on the Connections page.
 - d. Enter an optional description of the connection.
5. Click **Create**.

Your connection is created. You're now ready to configure the connection properties, security policies, and (for certain connections) agent group.

Configure Connection Properties

Enter connection information so your application can process requests.

1. Go to the **Properties** section.
2. Enter the following information. The fields that appear are based on the role (trigger or invoke) that you selected.
 - For trigger connections:

Element	Description
Listener Port	Enter the port on which to listen for inbound messages.

- For invoke connections:

Element	Description
Client IP	Enter the IP address or host name of the endpoint to which to send messages. If the connectivity agent is installed on the same instance as the endpoint, you can enter <code>localhost</code> .
Client Port	Enter the port of the endpoint to which to send messages.

Note:

There are no security policies required to use the MLLP Adapter.

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

Select the option for accessing your endpoint.

Option	This Option Appears If Your Adapter Supports ...
Connectivity agent	<p>Connections to on-premises endpoints through the connectivity agent.</p> <ol style="list-style-type: none"> 1. Click Associate agent group. The Associate agent group panel appears. 2. Select the agent group, and click Use. <p>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 <i>Using Integrations in Oracle Integration 3</i>.</p>

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	<p>A dialog prompts you to select the type of connection testing to perform:</p> <ul style="list-style-type: none"> • 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**.

3

Add the MLLP Adapter Connection to an Integration

When you drag the MLLP 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 MLLP Adapter endpoint properties.

The following sections describe the wizard pages that guide you through configuration of the MLLP Adapter as a trigger or invoke in an integration.

Topics:

- [MLLP Adapter Configuration Pages](#)

MLLP Adapter Configuration Pages

This section shows the Adapter Endpoint Configuration Wizard pages that are displayed when you add the MLLP Adapter as a trigger or invoke connection in an integration.

- [Welcome Page](#)
- [Summary - MLLP trigger Page](#)
- [Summary - MLLP invoke Page](#)

Welcome Page

Element	Description
Name	Enter a name to identify the endpoint.

Summary - MLLP trigger Page

Element	Description
Selected Port	Displays the port on which to listen for incoming messages. This is the value you specified when configuring the MLLP Adapter as a trigger connection. It cannot be changed.

Summary - MLLP invoke Page

Element	Description
Selected Port	Displays the port of the endpoint to which to send the message. This is the value you specified when configuring the MLLP Adapter as an invoke connection. It cannot be changed.
Selected Host	Displays the IP address or host name of the endpoint to which to send messages. This is the value you specified when configuring the MLLP Adapter as an invoke connection. It cannot be changed.