Oracle® Cloud

Integrate Oracle MICROS Reporting and Analytics with ATP

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Contents

Preface

This document describes how to install, configure, and run this recipe in Oracle Integration 3.

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Documentation Accessibility

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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

For more information, see these Oracle resources:

*   Oracle Integration documentation in the Oracle Cloud Library on the Oracle Help Center.
*   Oracle Cloud at `http://cloud.oracle.com`.

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.

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About This Recipe

Use this recipe to export restaurant sales and operational data from Oracle MICROS Reporting and Analytics to Oracle Autonomous Database for Transaction Processing (ATP).

> **Note:**
>
> This recipe is available as **Oracle MICROS R&A — Oracle ATP | Export Sales Data** in the Integration Store. Oracle provides this recipe as a sample only. The recipe is meant only for guidance, and is not warranted to be error-free. No support is provided for this recipe.

Overview

This recipe integrates Oracle MICROS Reporting and Analytics with Oracle ATP.

This is a scheduled integration recipe that extracts sales and dimensions data from Oracle MICROS Reporting and Analytics using its Business Intelligence APIs and imports the data into Oracle Autonomous Database for Transaction Processing (ATP).

For the purpose of the recipe integration, sample tables are created in Oracle ATP and the integration is configured to run SQL statements based on those tables. See Support note Supplemental Code for Oracle MICROS – ATP – Accounting Hub Oracle Integration Cloud Recipes for the SQL scripts that you must run to create the tables. Note that the recipe can be extended to extract any available data points from Reporting and Analytics, with the integration adapter configuration and mapping updated accordingly.

To use the recipe, you must install the recipe and configure the connections and other resources within it.

The recipe contains three integration flows:

- **Oracle MICROS RnA to ATP Export Process**: This integration calls Oracle MICROS RnA Dimensions to ATP and Oracle MICROS RnA Sales to ATP to be executed consecutively. It acts as a scheduler integration.

- **Oracle MICROS RnA Dimensions to ATP**: This integration fetches all the location information from Reporting and Analytics and inserts it into a dimensions table in ATP. Then, for each location, it inserts all the location dimension details (Tender Media Dimensions, Service Charge Dimensions, Order Type Dimensions, Discount Dimensions, Revenue Center Dimensions, Menu Item Dimensions, and Tax Dimensions) into the corresponding tables in ATP. For the list of tables, see Configure ATP.

- **Oracle MICROS RnA Sales to ATP**: This integration fetches all the location dimensions from Reporting and Analytics. Then, for each location, it gets the latest business date and for that particular date, inserts sales and operational data (Menu Item Daily Totals, Service Charge Daily Totals, Tax Daily Totals, Tender Media Daily Totals, and Discount Daily Totals) into the corresponding tables in ATP. For the list of tables, see Configure ATP.

Assumptions

- You have created all the tables for the dimensions, and sales and operational data, as described in Support note Supplemental Code for Oracle MICROS – ATP – Accounting Hub Oracle Integration Cloud Recipes.

- The table and view names are used as defined in Supplemental Code for Oracle MICROS – ATP – Accounting Hub Oracle Integration Cloud Recipes. If any change is made to the table or view names, you must modify the connector configuration in the integration accordingly.

- Recipe integration includes only sample error handling and notifications. Robust error handling based on customer needs must be implemented by the recipe consumer.

- The recipe include a set of chosen dimensions, and sales and operational data points to enable the Oracle Financials integration. Recipe consumers can choose to extend the recipe by using additional API invokes, which means that corresponding ATP tables must be added/modified accordingly.

System and Access Requirements

- Oracle Integration, Version 22.1.3.0.0 or higher

  – An account in Oracle Integration with the Service Invoker role to configure the recipe

- Oracle ATP, Version 19*c*

- Oracle MICROS Reporting and Analytics, Version 20.1 or higher

  – Oracle MICROS Simphony Cloud Service, Business Intelligence Interface (BI API)

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Before You Install the Recipe

Perform the following configuration tasks to successfully install and run the recipe.

Configure Oracle MICROS Reporting and Analytics

1. Configure a Business Intelligence API account in Reporting and Analytics to be used in the Oracle Integration connections, as described in Business Intelligence API in the *Reporting and Analytics User Guide*.

2. Configure the Reporting and Analytics OAuth server to send a callback response to the Oracle Integration Cloud instance where this recipe is being installed.

    *   This requires the Oracle consultant to open an internal ticket and request configuring multiple redirect URLs.

    *   The following information needs to be provided:

        a. Customer Environment Name

        b. Enterprise Name and Enterprise Short Name

        c. Client_ID of the BI API Account

        d. Custom redirect URL to be configured. For example: `https://oic-dev-abcdefghi1234.integration.us-phoenix-1.ocp.oraclecloud.com/icsapis/agent/oauth/callback`

3. Collect the following information from Reporting and Analytics to configure the Oracle Integration connections. For details, see Send Requests in the *Business Intelligence API Guide*.

    *   Account name

    *   Password

    *   Enterprise short name (`orgIdentifier`)

    *   `client_id`

    *   `rest_server` URLs for the Authentication APIs and the Business Intelligence data APIs

    Besides the above, generate a code verifier and code challenge.

    *   The `code_challenge` is a Base64-encoded SHA-256 hash of the `code_verifier`. The `code_verifier` is a cryptographically random string.

    *   Both `code_verifier` and the `code_challenge` are generated by the client (in this case by the OIC recipe).

    *   The `code_challenge` and `code_verifier` are used to perform a challenge-response validation in OAuth PKCE Flow.

    *   `code_challenge_method` is fixed S256

    For more information, see Authenticate in the *Business Intelligence API Guide*.

Configure ATP

To access ATP from Oracle Integration, perform the following configuration tasks on your ATP database:

1. Obtain the Cloud Wallet and the Credentials of the ATP instance to be used in the Oracle Integration connections

2. Create the following tables, which are required for collecting dimension and sales data. The DDL statements to create these tables are provided in Support note Supplemental Code for Oracle MICROS – ATP – Accounting Hub Oracle Integration Cloud Recipes:

   - `FNB_DIM_LOCATION`

   - `FNB_DIM_DISCOUNT`

   - `FNB_DIM_MENUITEM`

   - `FNB_DIM_ORDERTYPE`

   - `FNB_DIM_REVENUECENTER`

   - `FNB_DIM_SERVICECHARGE`

   - `FNB_DIM_TAX`

   - `FNB_DIM_TENDERMEDIA`

   - `FNB_MENUITEMDAILYTOTALS`

   - `FNB_SERVICECHARGEDAILYTOTALS`

   - `FNB_TAXDAILYTOTALS`

   - `FNB_TENDERMEDIADAILYTOTALS`

   - `FNB_DISCOUNTDAILYTOTALS`

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Install and Configure the Recipe

On your Oracle Integration instance, install the recipe to deploy and configure the integration and associated resources.

1. On the Oracle Integration Home page, in the **Use a recipe/accelerator** section, click **View all**.

2. Find the recipe you want to install, then click **Get**.

   A message confirms that the recipe was successfully installed, and the recipe card shows **In use**.

3. Click **Configure** ⚙ on the recipe to configure its resources.

   The project workspace opens, displaying all the resources of the recipe. Configure the following resources before you activate and run the recipe.

Configure the REST OIC API Connection

1. In the Connections section, click the connection name.

2. In the Properties section, enter the following details:

Field	Information to Enter
Connection Type	Leave **REST API Base URL** selected.
Connection URL	Enter the host name of the Oracle Integration instance where you installed the recipe.

3. In the Security section, enter the following details:

Field	Information to Enter
Security Policy	Select **Basic Authentication**.
User Name	Enter the user name of the Oracle Integration user account with the Service Invoker role. See System and Access Requirements.
Password	Enter the password of the Oracle Integration user account with the Service Invoker role.

4. Click **Save**. If prompted, click **Save** again.

5. Click **Test** to ensure that your connection is successfully configured. In the resulting dialog, click **Test** again.

   A message confirms if your test is successful.

6. To return to the project workspace, click **Go back** ⟨ .

Configure the Oracle MICROS Reporting and Analytics BI API Connection

1. In the Connections section, click the connection name.

2. In the Properties section, enter the following details:

Field	Information to Enter
Connection Type	Leave **REST API Base URL** selected.
Connection URL	Enter the domain used to log into the Reporting and Analytics instance.
	For more information, see Send Requests in the *Business Intelligence API Guide*.

3. In the Security section, enter the following details:

Field	Information to Enter
Security Policy	Select **OAuth Custom Three Legged Flow**.
Authorization Request	Enter the authorization request format.
	Example: `https://`*BIAPI_IDM_Server_HOST*`/oidc-provider/v1/oauth2/authorize?response_type=code&client_id=` *client_id* `&scope=openid&redirect_uri=https://` *OIC_HOST*`/icsapis/agent/oauth/callback&code_challenge=`*code_challenge*`&code_challenge_method=S256`
Access Token Request	Enter the access token request format.
	Example: `-X POST -H 'Content-Type: application/x-www-form-urlencoded' -d 'grant_type=authorization_code&code=${auth_code}&redirect_uri=https://` *OIC_HOST*`/icsapis/agent/oauth/callback&code_verifier=`*code_verifier*`&client_id=`*client_id*`' https://` *BIAPI_IDM_Server_HOST*`/oidc-provider/v1/oauth2/token`
Refresh Token Request	Enter the refresh token request format.
	Example: `-X POST -H 'Content-Type: application/x-www-form-urlencoded' -d 'grant_type=refresh_token&refresh_token=${refresh_token}&redirect_uri=https://` *OIC_HOST*`/icsapis/agent/oauth/callback&code_verifier=`*code_verifier*`&client_id=`*client_id*`' https://` *BIAPI_IDM_Server_HOST*`/oidc-provider/v1/oauth2/token`
$auth_code	`code`
$access_token	`access_token`
$refresh_token	`refresh_token`

Field	Information to Enter
$expiry	`expires_in`
$token_type	`token_type`
access_token_usage	`-H Authorization: ${token_type} ${access_token}`

4. Click **Save**. If prompted, click **Save** again.

5. Click **Test** to ensure that your connection is successfully configured. In the resulting dialog, click **Test** again.

   A message confirms if your test is successful.

6. To return to the project workspace, click **Go back** .

Configure the Oracle ATP Cloud Connection

1. In the Connections section, click the connection name.

2. In the Properties section, enter the Service Name.

3. In the Security section, enter the following details:

Field	Information to Enter
Security Policy	Select **JDBC Over SSL**.
Wallet	Upload the wallet zip file.
Wallet Password	Enter the password for the wallet.
Database Service Username	Enter the service user name of the Database created for Oracle Integration on ATP.
Database Service Password	Enter the password of the Database created for Oracle Integration on ATP.

> **Note:**
>
> These configurations indicate a wallet-based connectivity to ATP. This may vary depending on the type of ATP and its authentication mechanism used in your instance. Configure the connection accordingly.

4. Click **Save**. If prompted, click **Save** again.

5. Click **Test** to ensure that your connection is successfully configured. In the resulting dialog, click **Test** again.

   A message confirms if your test is successful.

6. To return to the project workspace, click **Go back** .

Configure the Lookup Table

Edit the **ORACLE-BRT-Micros_ErrorNotification_Config** lookup table and enter the necessary values.

1. In the Lookups section, click the lookup name.

2. The **ORACLE-BRT-Micros_ErrorNotification_Config** lookup table contains the information needed to trigger the error handlers. Enter the required information for the following parameters:

Parameter	Information to Enter
OIC	The Oracle Integration Admin email address that must be notified on failures.
ERP	The Oracle Integration Admin email address that must be notified on failures.
Micros	The Oracle Integration Admin email address that must be notified on failures.

3. Click **Save**. If prompted, click **Save** again.

4. To return to the project workspace, click **Go back** .

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Activate and Run the Recipe

After you've configured the connections and other resources, you can activate and run the recipe.

1. In the project workspace, click **Activate**. In the Activate project panel, with the default project deployment selected, choose an appropriate tracing option, then click **Activate**.

   A message confirms that the integration has been activated. Refresh the page to view the updated status of the integration.

2. Run the recipe.

   a. In the Integrations section of the project workspace, click **Actions** ... on the **Oracle MICROS RnA to ATP Export Process** integration flow, then select **Run**.

   b. On the Configure and run page, click **Run**.

   You've now successfully submitted the integration for execution.

   > ✏ **Note:**
   >
   > You can also schedule this integration to run at a date, time, and frequency of your choosing. See Define the Integration Schedule.

3. Log in to your ATP database:

   a. Navigate to the ATP schema.

   b. Under the corresponding tables, notice that the dimensions and sales data for the latest business date is inserted from Reporting and Analytics to ATP.

4. Monitor the running of the integration flow in Oracle Integration.

   a. In the project workspace, click **Observe**. You'll see the integration flow being triggered and running successfully.

   b. To manage errors in your project, see Manage Errors in a Project.

Related Documentation

- *Using the REST Adapter with Oracle Integration 3*
- *Using the Oracle Autonomous Transaction Processing Adapter with Oracle Integration 3*
- *Business Intelligence API Guide*
- *Reporting and Analytics User Guide*