

**Oracle Utilities Work and Asset Cloud  
Service Integration to Oracle Supply  
Chain Management**

Configuration Guide

Release 24A

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Oracle Utilities Work and Asset Cloud Service Integration to Oracle Supply Chain Management Configuration  
Guide

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# Preface

Welcome to the Oracle Utilities Work and Asset Cloud Service Integration to Oracle Supply Chain Management Configuration Guide for release 24A.

This preface explains how the guide is organized and introduces other sources of information that can help you. It includes the following:

- [Audience](#)
- [Documentation and Resources](#)
- [Documentation Accessibility](#)
- [Conventions](#)
- [Acronyms](#)

## Audience

This document is intended for anyone implementing the integration between Oracle Utilities Work and Asset Cloud Service and Oracle Supply Chain Management.

## Documentation and Resources

For more information regarding this integration, foundation technology and the edge applications, refer to the following documents:

### Product Documentation

| Resource  | Location  |
|---|---|
| Oracle Utilities Work and Asset Cloud Service Integration to Oracle Supply Chain Management documentation | <a href="https://docs.oracle.com/en/industries/energy-water/integrations-index.html">https://docs.oracle.com/en/industries/energy-water/integrations-index.html</a>                         |
| Oracle Utilities Work and Asset Cloud Service documentation   | <a href="https://docs.oracle.com/en/industries/energy-water/work-asset-cloud-service/index.html">https://docs.oracle.com/en/industries/energy-water/work-asset-cloud-service/index.html</a> |
| Oracle Utilities Work and Asset Management documentation  | <a href="https://docs.oracle.com/en/industries/energy-water/work-asset-management/index.html">https://docs.oracle.com/en/industries/energy-water/work-asset-management/index.html</a>       |
| Oracle Supply Chain Management documentation  | <a href="https://docs.oracle.com/en/cloud/saas/supply-chain-and-manufacturing/24a/index.html">https://docs.oracle.com/en/cloud/saas/supply-chain-and-manufacturing/24a/index.html</a>       |

### Additional Documentation

| Resource  | Location   |
|---|--|
| Oracle Support  | <p>Visit My Oracle Support at <a href="https://support.oracle.com">https://support.oracle.com</a> regularly to stay informed about updates and patches.</p> <p>Refer to the <i>Certification Matrix for Oracle Utilities Products (Doc ID 1454143.1)</i> on My Oracle Support to determine if support for newer versions of the listed products is included.</p> <p>For more information, refer to the Oracle Utilities Integrations page at <a href="http://my.oracle.com/site/tugbu/productsindustry/productinfo/utilities/integration/index.htm">http://my.oracle.com/site/tugbu/productsindustry/productinfo/utilities/integration/index.htm</a></p> |
| Oracle Technology Network (OTN)<br>Latest versions of documents | <a href="http://www.oracle.com/technetwork/index.html">http://www.oracle.com/technetwork/index.html</a>  |
| Oracle University<br>for training opportunities                 | <a href="http://education.oracle.com/">http://education.oracle.com/</a>  |

# 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 have access to electronic support for the hearing impaired. Visit: <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs>

## Conventions

The following text conventions are used in this document:

| Convention      | Meaning  |
|-----------------|--|
| <b>boldface</b> | 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. |

## Acronyms

The following terms are used in this document:

| Term        | Expanded Form                                 |
|-------------|---|
| ERP         | Enterprise Resource Planning                  |
| OIC         | Oracle Integration Cloud                      |
| OUWACS/WACS | Oracle Utilities Work and Asset Cloud Service |
| OUWAM/WAM   | Oracle Utilities Work and Asset Management    |
| SCM         | Oracle Supply Chain Management                |
| SID         | Stock Item Detail                             |

# Chapter 1

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## Overview

This chapter provides an overview of Oracle Utilities Work and Asset Cloud Service integration with Oracle Supply Chain Management using Oracle Integration Cloud. It also provides information about software requirements, participating applications and supported business processes in this integration.

The chapter includes the following:

- [Overview of the Integration](#)
- [About Oracle Supply Chain Management](#)
- [About Oracle Utilities Work and Asset Cloud Service](#)
- [About Oracle Integration Cloud](#)
- [Supported Source Applications](#)
- [Prerequisites](#)

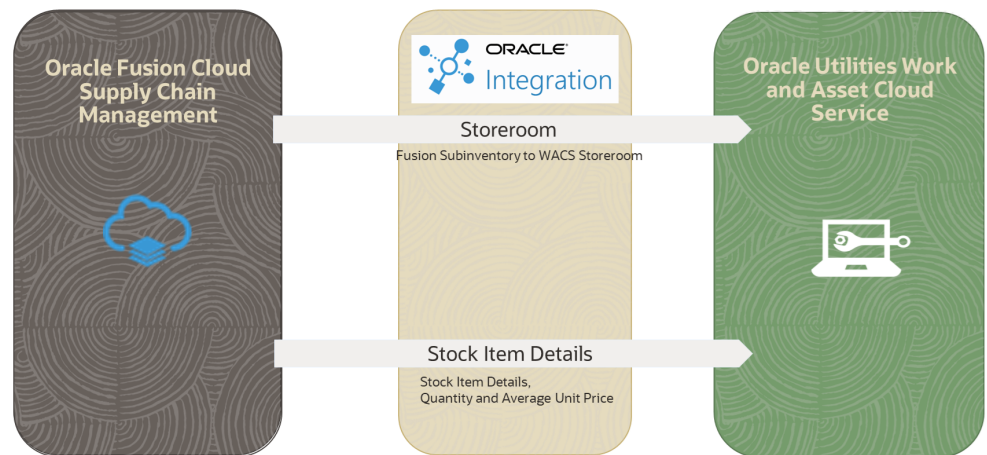


## Overview of the Integration

Utilities around the world are using Oracle Supply Chain Management for their supply chain and inventory management with Oracle Utilities Work and Asset Cloud Service for work and asset management. Oracle Utilities Work and Asset Cloud Service integration to Oracle Supply Chain Management will provide the set of integrations for seamless data flow between the two systems to allow users to carry out the business processes optimally using both the systems. The integration caters to customers who use Oracle Supply Chain Management for inventory management with Oracle Utilities Work and Asset Management being source for the inventory master data and transactions.

The integration supports Storeroom and Stock Item Details synchronization flows from Oracle Supply Chain Management to Oracle Utilities Work and Asset Cloud Service.

The following diagram illustrates the high-level features of this integration:



## About Oracle Supply Chain Management

Oracle Supply Chain Management is a cloud-based solution which helps organizations create a modern, agile, and resilient supply chain that can respond quickly to changing demand, supply, and market conditions. It is part of Oracle Fusion Cloud ERP. Some of the important functions managed by Oracle Supply Chain Management are inventory, supply chain planning, cost management, product development, order management, and many more.

## About Oracle Utilities Work and Asset Cloud Service

Oracle Utilities Work and Asset Cloud Service maintains information about assets and various features and functions around managing those assets. The solution provides a means of recording asset acquisition, maintenance, procurement, installation, and removal.

Oracle Utilities Work and Asset Cloud Service provides functionality to manage the receipt, installation, maintenance, tracking, and removal of assets. The application also manages approval processing, tracks purchasing transactions, manages inventory and resources, and tracks costs, accounting, and financial transactions.

# About Oracle Integration Cloud

Oracle Integration Cloud is a unified platform to integrate the applications, automate processes, and create applications.

Using Process Builder, business processes can be rapidly designed, automated, and managed in the cloud. Using integrations connect the applications into a continuous business flow. The integrations can be quickly developed and activated between both the applications that live in the cloud; and the applications still live on premises. The lookups help to match application specific codes between the two applications.

Integration Insights and Stream Analytics helps to simplify and extract business metrics and create custom dashboards.

## Supported Source Applications

The integration requires the following applications:

- Oracle Utilities Work and Asset Cloud Service
- Oracle Utilities Work and Asset Management
- Oracle Integration Cloud
- Oracle Supply Chain Management

For the application versions, refer to the *Oracle Utilities Work and Asset Cloud Service Integration to Oracle Supply Chain Management Release Notes* included in this release.

The documentation is available on Oracle Help Center at: <https://docs.oracle.com/en/industries/energy-water/integrations-index.html>

## Prerequisites

All participating applications must be installed, set up, and working properly. It is also required to do all the mandatory setup described in the *Oracle Supply Chain Management Configurations for Oracle Utilities Work and Asset Cloud Service Integration to Oracle Supply Chain Management Setup Guide* to run this integration.

The documentation is available on Oracle Help Center at: <https://docs.oracle.com/en/industries/energy-water/integrations-index.html>

# Chapter 2

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## Solution Architecture

This chapter provides an overview of the application architecture used by the integration, including:

- [Solution Overview](#)
- [Business Processes](#)
- [Integration Flows](#)

# Solution Overview

The technical aspects involved in the integration between Oracle Supply Chain Management and Oracle Utilities Work and Asset Cloud Service are:

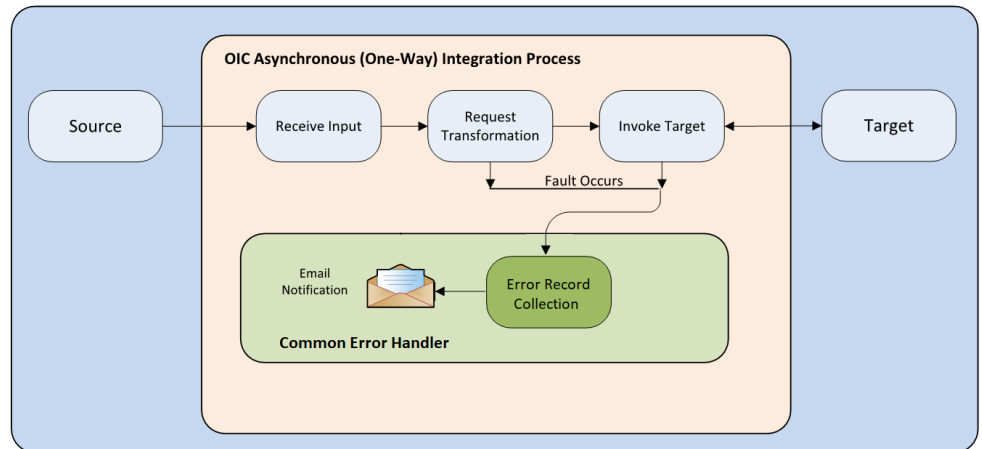
- The integration layer consists of integration processes deployed on Oracle Integration Cloud.
- The integration processes interact with other applications using the following adapters:
  - Oracle ERP Cloud Adapter to subscribe to business events raised by various modules in Oracle Supply Chain Management. This integration subscribes to the Item Publication, Item Create, and Item Update Events.
  - REST Adapter to invoke ERP SCM UnitOfMeasureConversions REST API to get the UOM Conversion for the Item's PI Ratio.
  - REST Adapter to receive and send item and storeroom records across Oracle Integration Cloud integration flows and used to invoke the Common Error Handler Oracle Integration Cloud integration flow.
  - SOAP Adapter to interact with Oracle UCM Generic Web Service to get files in Oracle UCM.
  - SOAP Adapter to invoke the ERP BI Report SOAP service, to fetch the item quantity and price.
  - Oracle Utilities adapter to invoke WACS REST APIs, to synchronize storerooms and stock item details.
  - Oracle Utilities Adapter to invoke WACS Health check SOAP service.
- The integration pattern used for the solution is:
  - [One-way Asynchronous](#)
  - [Two-way Asynchronous](#)

## One-way Asynchronous

The one-way asynchronous integration process:

1. Receives request message from the source application.
2. Transforms message from the source to the target format. Lookups are used for data translations.
3. Invokes target application to send the request message.
4. In case of any error, the global fault handler catches them.
5. The error instance can be re-submitted from Oracle Integration Cloud. Refer to the [Error Handling](#) section in [Configuring Lookups, Error Handling, and Email Notifications](#) for more details.
6. The email notification is optional in most cases. Configure the notification.error.flag property name in the OUTL-BRT-WACS\_ERPSCM\_ConfigProps lookup to 'true' and notification.type.email property to 'email' to receive email notification when errors are encountered.

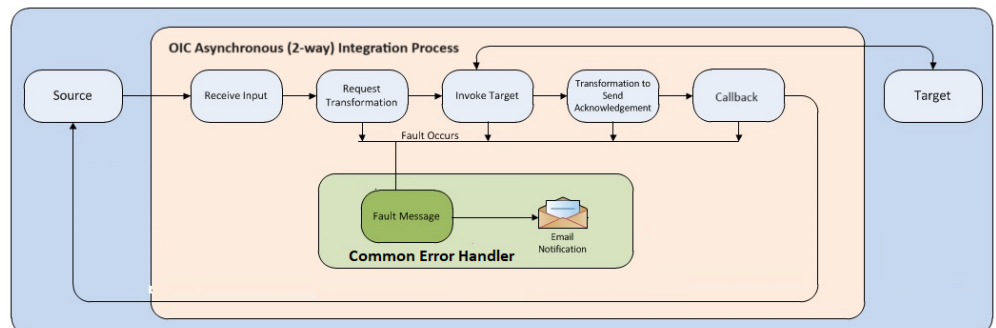
- The recipient(s) of the email notification is/are configured in the OUTL-BRT-WACS\_ERPSCM\_Email\_ID lookup.



## Two-way Asynchronous

The two-way asynchronous integration process:

- Receives request message from the source application.
- Transforms message from the source to the target format. Lookups are used for data translations.
- Invokes the target application to send the request message.
- Transforms the success or error response message.
- In case of any error, the global fault handler catches them.
- The error instance can be re-submitted from Oracle Integration Cloud. Refer to the [Error Handling](#) section in [Configuring Lookups, Error Handling, and Email Notifications](#) for more details.
- The email notification is optional in most cases. Configure the `notification.error.flag` property name in the OUTL-BRT-WACS\_ERPSCM\_ConfigProps lookup to 'true' and `notification.type.email` property to 'email' to receive email notification when errors are encountered.
- The recipient(s) of the email notification is/are configured in the OUTL-BRT-WACS\_ERPSCM\_Email\_ID lookup.



## Business Processes

The integration scope supports the following business processes:

- [Storeroom Sync from ERP SCM to WACS](#)
- [Stock Item Details Sync from ERP SCM to WACS](#)

### Storeroom Sync from ERP SCM to WACS

The storeroom integration transfers the sub inventory in Oracle Fusion ERP Cloud as storeroom in Oracle Utilities Work and Asset Cloud Service:

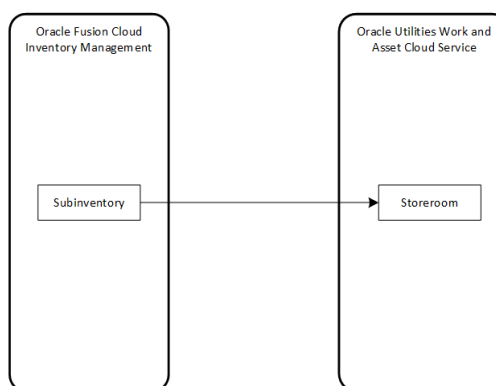
- [Active Storeroom Synchronization](#) from Oracle Supply Chain Management to Oracle Utilities Work and Asset Cloud Service
- [Inactive Storeroom Synchronization](#) from Oracle Fusion ERP Cloud to Oracle Utilities Work and Asset Cloud Service

#### Active Storeroom Synchronization

This process synchronizes the “Active” sub inventories from Oracle Supply Chain Management to storerooms in Oracle Utilities Work and Asset Cloud Service in bulk and incremental fashion.

#### Inactive Storeroom Synchronization

This process synchronizes the sub inventories in “Inactive” status from Oracle Supply Chain Management to storerooms in Oracle Utilities Work and Asset Cloud Service in bulk and incrementally.



### Stock Item Details Sync from ERP SCM to WACS

Stock Item Details Integration synchronizes the following data from Fusion Inventory to Oracle Utilities Work and Asset Cloud Service:

- [Stock Item Detail Bulk Load](#) from Oracle Fusion ERP Cloud to Oracle Utilities Work and Asset Cloud Service
- [Stock Item Detail Incremental Sync](#) from Oracle Fusion ERP Cloud to Oracle Utilities Work and Asset Cloud Service

- [Item Quantities and Average Unit Price Sync](#) from Oracle Fusion ERP Cloud to Oracle Utilities Work and Asset Cloud Service

### Stock Item Detail Bulk Load

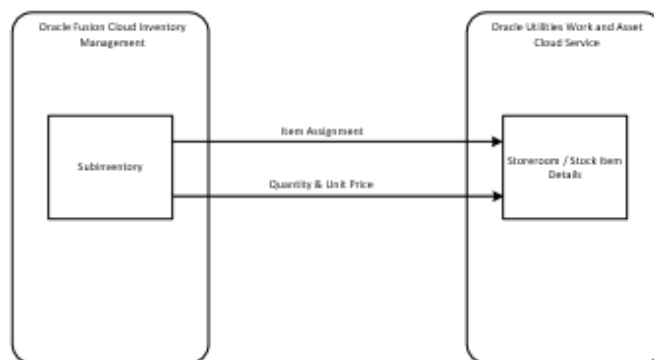
Item assignments in Oracle Fusion ERP Cloud sub inventory will be synchronized as Stock Item Details in Oracle Utilities Work and Asset Cloud Service storerooms. The bulk load will synchronize full item extract from Oracle Fusion ERP Cloud to SID in Oracle Utilities Work and Asset Cloud Service.

### Stock Item Detail Incremental Sync

Incremental synchronization will use create/update item events to synchronize the item to SIDs in Oracle Utilities Work and Asset Cloud Service incrementally.

### Item Quantities and Average Unit Price Sync

On-hand quantity and average unit price for an item in Oracle Fusion ERP Cloud sub inventory will be synchronized to Item Quantity in Oracle Utilities Work and Asset Cloud Service storeroom.



This functionality is achieved through the integration flows. For more information, refer to the [Integration Flows](#) section.

## Integration Flows

The integration scope supports the following processes:

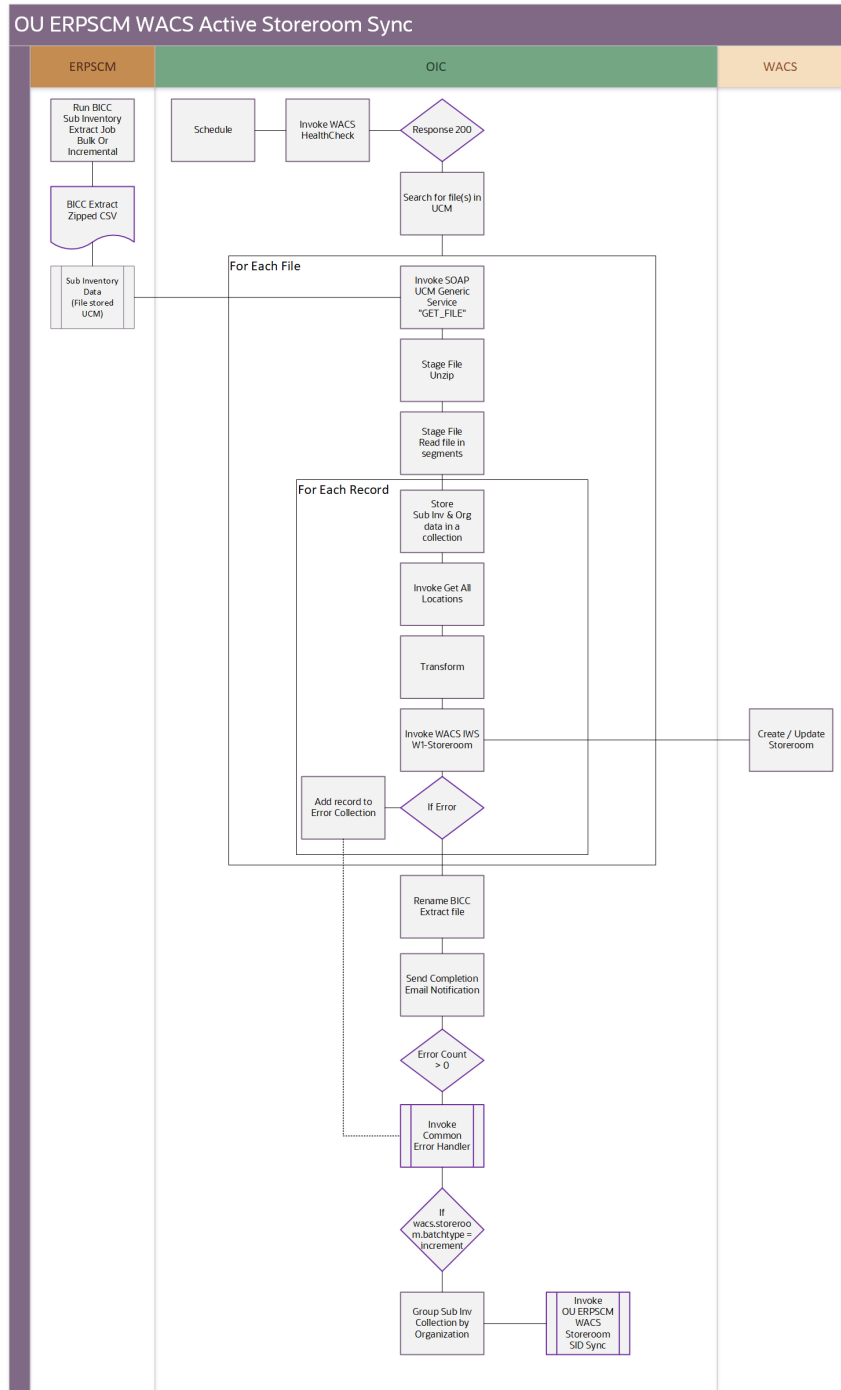
- [OU ERPSCM WACS Active Storeroom Sync](#)
- [OU ERPSCM WACS Inactive Storeroom Sync](#)
- [OU ERPSCM WACS Storeroom SID Sync](#)
- [OU ERPSCM WACS Stock Item Detail Bulk Load](#)
- [OU ERPSCM WACS Stock Item Detail Incremental Sync](#)
- [OU ERPSCM WACS Stock Item Detail Inv Adj Extract](#)
- [OU ERPSCM WACS Stock Item Detail Inv Adjustment](#)
- [OU WACS ERPSCM Common Error Handler](#)

All integration flows are Oracle Supply Chain Management initiated.

# OU ERPSCM WACS Active Storeroom Sync

This integration synchronizes the active sub inventories in Oracle Supply Chain Management as storeroom in Oracle Utilities Work and Asset Cloud Service.

The following diagram shows a graphical representation of the OU ERPSCM WACS Active Storeroom Sync integration process:





## Processing Details

This is an asynchronous scheduled integration process deployed on Oracle Integration Cloud and performs the following activities:

1. This process is triggered on a schedule basis with a schedule parameter fileName prefix.
  - Note:** Ensure the BICC ERPSCM\_ActiveSubinvExtBICC\_WACS job is scheduled in Oracle Supply Chain Management before this integration process is scheduled.
2. Invoke the WACS IWS F1-HealthCheck SOAP service to check the Oracle Utilities Work and Asset Cloud Service connectivity before proceeding with the flow execution.
3. Invoke the UCM Generic SOAP service to search the file(s) with the matching file name prefix.
4. For each sub inventory extract zip file found:
  - a. If count of number of files found is '0':
    - a. Send an email notification.
      - Note:** Sending email notification is optional; this can be configured in the configuration properties lookup by setting the notification.email.process.nofile.flag to 'true'.
  - b. Set the error flag to 'false'.
  - c. Invoke the UCM Generic SOAP service to get the sub inventories extract zip file from UCM given the DocId obtained from the search above.
  - d. Unzip the file using stage operation.
  - e. Invoke the "ReadFileinSegments" stage file action. This action reads the file in segments of 200 records. After all the 200 records are processed, the next segment of 200 records is read.
  - f. For each subinventory record in the file, do the following:
    - a. Transform the payload from Oracle Supply Chain Management to the Oracle Utilities Work and Asset Cloud Service payload. Map the location details by fetching them using the REST API Get all locations.
      - a. Use the get all locations REST API given in the references.
      - b. Using the locationId received in the extract in the query parameters, fetch the other location details, such as address 1,address 2,address 3,address 4, country, state.
      - c. Use the lookup for mapping country and state.
    - b. Invoke the WACS REST service - W1-Storeroom to pass the sub inventory information to Oracle Utilities Work and Asset Cloud Service.
    - c. In case of any errors, append the record to the error collection.
    - d. Set the error flag to 'true'.
    - e. Append Sub inv and Org data to a collection.
  - g. If the error flag is 'true', invoke the UCM Generic SOAP service to update the file to "Error-" filename passing the required parameters.

- h. Else, invoke the UCM Generic SOAP service to update the file to “PROCESSED-” filename passing these required parameters.
5. On successful processing of all the records in the file, an email is sent with the completion message.
 

**Note:** Sending an email notification is optional; this can be configured in the configuration properties lookup by setting the notification.email.process.complete.flag to ‘true’.

  - a. Also check if the number of records processed is  $> 0$ .
  - b. If yes, do not send the success email.
6. If the error records collection  $> 0$ :
  - a. Send an email notification.
 

**Note:** Sending an email notification is optional; this can be configured in the configuration properties lookup by setting the notification.email.process.complete.flag to ‘true’.
7. Invoke the child OU ERPSCM WACS Storeroom SID Sync flow and pass the sub inv - Subinv collection grouped by org.

### Technical Details

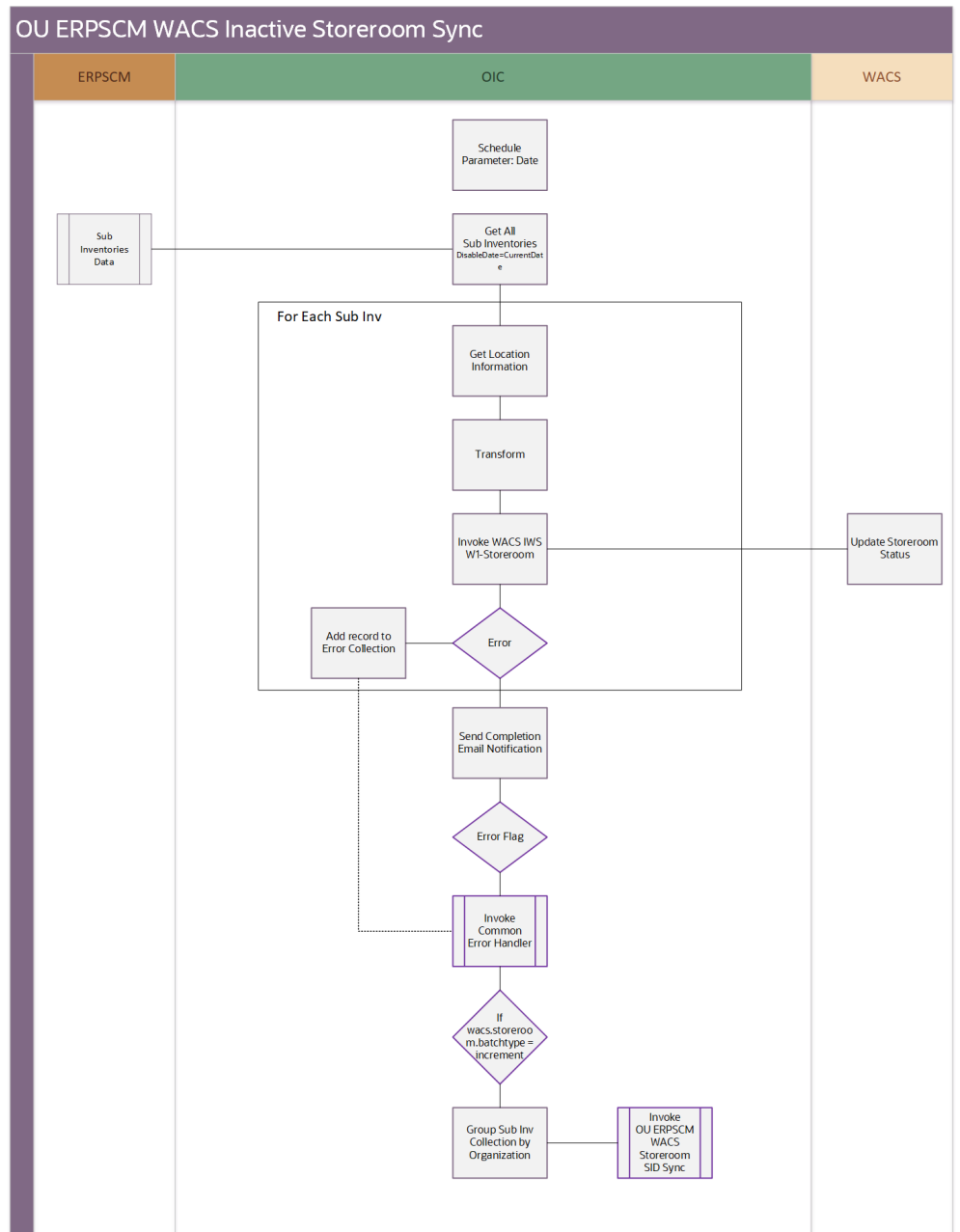
The following table describes the integration processes and the respective artifacts used in this integration process:

| Artifacts                       | Value                                       |
|---------------------------------|---|
| Integration Process Name        | OU ERPSCM WACS Active Storeroom Sync        |
| Project Name                    | OU WACS ERPSCM                              |
| SOAP Adapter                    | OU SOAP UCM Generic Service for WACS-ERPSCM |
| Oracle Utilities adapter (SOAP) | OU SOAP WACS for WACS-ERPSCM                |
| Oracle Utilities adapter (REST) | OU REST WACS for WACS-ERPSCM                |
| REST Adapter                    | OU REST ERP for WACS-ERPSCM                 |

## OU ERPSCM WACS Inactive Storeroom Sync

This Integration synchronizes the disabled sub-inventories status back to Oracle Utilities Work and Asset Cloud Service from Oracle Supply Chain Management. This flow mainly fetches the sub-inventories details which were deactivated after the given date.

The following diagram shows a graphical representation of the OU ERPSCM WACS Inactive Storeroom Sync integration process:



## Processing Details

This is an asynchronous scheduled integration process deployed on Oracle Integration Cloud and performs the following activities:

1. This process is triggered on a schedule basis.

**Note:** Recommended to schedule this integration on a daily basis at the EOD.

2. Fetch all the sub inventories from Oracle Supply Chain Management with the “/fscmRestApi/resources/11.13.18.05/subinventories” REST API with Disable Date = CURRENT DATE.

3. For each sub inventory:
  - a. Invoke the WACS IWS W1-Storeroom REST service and map all the fields.
  - b. In case of any error, add the record to the error collection and set the error flag.
4. Send a successful completion email with list of all sub inventories that were deactivated.
5. If error flag is 'true', send an error email as well.
6. Send the collection to SID deactivation, invoke the OU ERPSCM WACS Storeroom SID Sync child integration.

### Technical Details

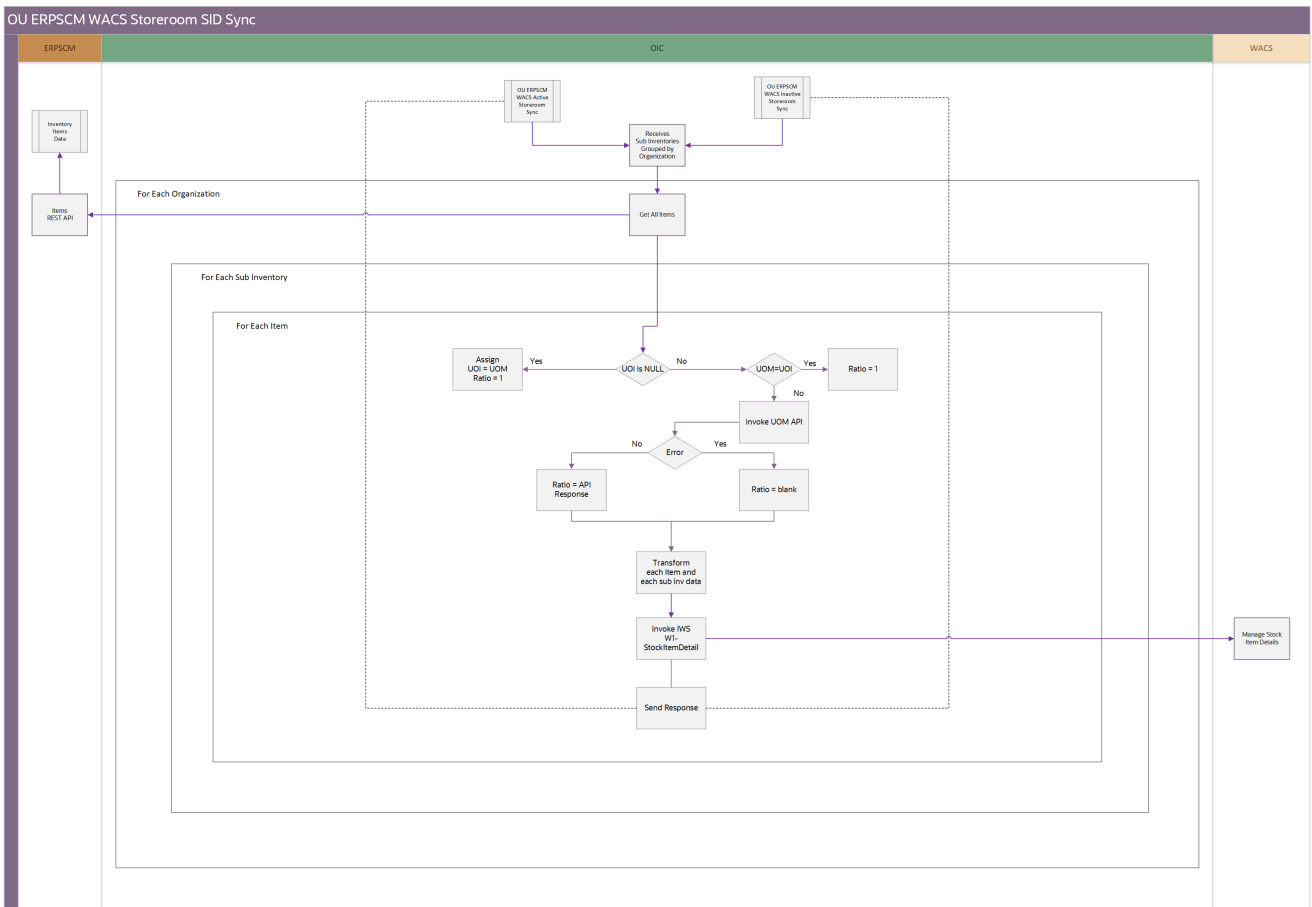
The following table describes the integration processes and the respective artifacts used in this integration process:

| Artifacts                       | Value                                  |
|---------------------------------|--|
| Integration Process Name        | OU ERPSCM WACS Inactive Storeroom Sync |
| Project Name                    | OU WACS ERPSCM                         |
| Oracle Utilities adapter (REST) | OU REST WACS for WACS-ERPSCM           |
| REST Adapter                    | OU REST ERP for WACS-ERPSCM            |

## OU ERPSCM WACS Storeroom SID Sync

This integration creates/disables the SIDs of the respective storerooms, whenever a new storeroom is created or updated in Oracle Supply Chain Management. This flow will be called either by the Active Storeroom Sync or Inactive Storeroom Sync integration flow. It is the common flow for both to create/update the SIDs.

The following diagram shows a graphical representation of the OU ERPSCM WACS Storeroom SID Sync integration process:



## Processing Details

This is an asynchronous application driven integration process deployed on Oracle Integration Cloud and performs the following activities:

1. This process receives OrgId and sub inventory collection from parent flows grouped by OrgId.
2. For each organization, gets all items using the “/fscmRestApi/resources/11.13.18.05/itemsV2” REST API.
3. For each sub inventory:
  - a. For each item:
    - a. Derive the “Purchase To Issue Ratio” value.
    - b. Transform item and sub inventory data to Oracle Utilities Work and Asset Cloud Service stock item detail format.
    - c. Invoke WACS IWS W1-StockItemDetails.
    - d. If Oracle Utilities Work and Asset Cloud Service returns a fault, add the Item unique ID/value in error and error details to the error collection. Then, continue with the next Item record.

- b. After all the records are processed, check for any Oracle Utilities Work and Asset Cloud Service errors encountered.
- c. In case of any errors, send an optional error mail notification based on the “notification.error.flag” configuration property value defined in the OUTL-BRT-WACS\_ERPSCM\_ConfigProps lookup.

### Technical Details

The following table describes the integration processes and the respective artifacts used in this integration process:

| Artifacts                       | Value                             |
|---------------------------------|-----------------------------------|
| Integration Process Name        | OU ERPSCM WACS Storeroom SID Sync |
| Project Name                    | OU WACS ERPSCM                    |
| Oracle ERP Cloud Adapter        | OU ERPSCM Cloud for WACS-ERPSCM   |
| REST Adapter                    | OU REST ERP for WACS-ERPSCM       |
| Oracle Utilities Adapter (REST) | OU REST WACS for WACS-ERPSCM      |
| REST Adapter                    | OU REST Trigger for WACS-ERPSCM   |

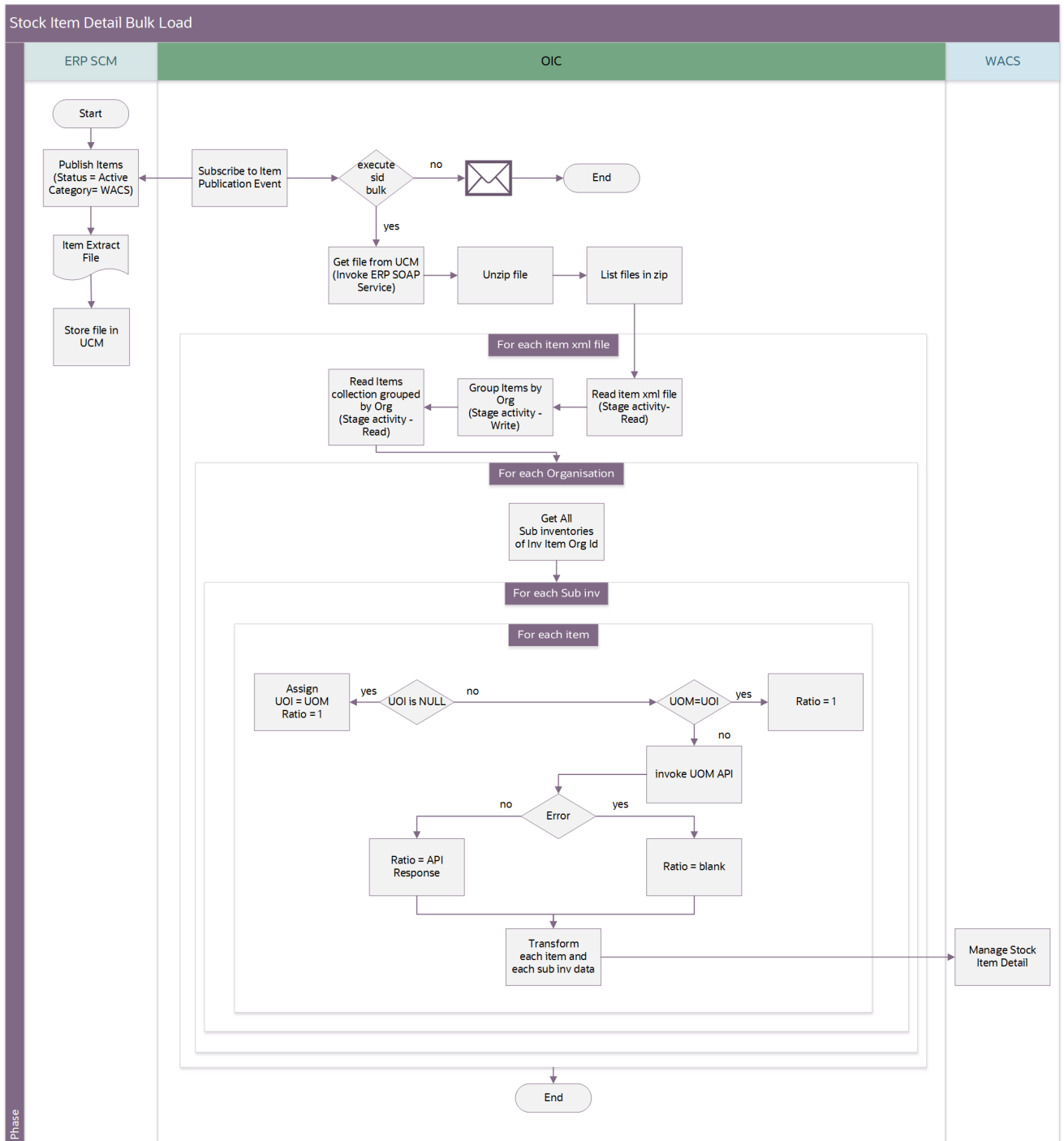
## OU ERPSCM WACS Stock Item Detail Bulk Load

This integration process synchronizes the inventory items extracted in bulk from Oracle Fusion ERP Cloud to Stock Item Details in Oracle Utilities Work and Asset Cloud Service storerooms. The process is usually run after all items from Oracle Supply Chain Management are synchronized to stock items in Oracle Utilities Work and Asset Cloud Service.

Note that the Item Initial Synchronization process in the Oracle ERP Product Hub Cloud Integration to Oracle Utilities Work and Asset Cloud Service for Stock Item integration solution is a pre-requisite for SID Bulk Load.

For information about this process, refer to the Oracle ERP Product Hub Cloud Integration to Oracle Utilities Work and Asset Cloud Service for Stock Item documentation on Oracle Help Center at: <https://docs.oracle.com/en/industries/energy-water/integrations-index.html>

The following diagram shows a graphical representation of the OU ERPSCM WACS Stock Item Detail Bulk Load integration process:



## Processing Details

This is an asynchronous (one-way) integration process deployed on Oracle Integration Cloud.

The process is triggered by a business event raised within Oracle Fusion ERP Cloud when an Item File is published. This Oracle Integration Cloud process handles the following:

1. Subscribe to an Item Publication Event. Oracle Supply Chain Management publishes an event with a payload containing the Doc ID when an item file is published in the Oracle Fusion ERP Cloud UCM server.
2. Check for “execute.sid.bulk” flag from the OUTL-BRT-WACS\_ERPSCM\_ConfigProps lookup.

**Note:** Make sure that the Oracle Utilities ERPPIM WACS Item Initial Sync flow in the OU WACS ERPPIM Project is executed and successful, which will create Stock items in Oracle Utilities Work and Asset Cloud Service. For stock item PIM flow to process the items records, make sure “execute.stockitem.bulk” flag is enabled. After the items are created successfully, disable the “execute.stockitem.bulk” flag to avoid redundant item creation calls in Oracle Utilities Work and Asset Cloud Service.

- After the PIM flow is executed, enable the “execute.sid.bulk” flag. The SID bulk flow processes the SID records, only when this flag is enabled.
3. If the “execute.sid.bulk” flag is “no”:
    - a. Notify the user to synchronize bulk SIDs to Oracle Utilities Work and Asset Cloud Service. Set the “execute.sid.bulk” flag to “yes” in the configuration properties lookup.
    - b. Stop the flow.
  4. If the flag is set to “yes”:
    - a. Invoke the Oracle Utilities Work and Asset Management health check IWS, if successful.
      - a. Invoke the **UCM Generic SOAP** service to get the Item file from UCM given the doc ID provided by the Item Publication Event.
      - b. Unzip the file.
      - c. List the files (.xml).
      - d. For each file:
        - a. Read the file using the stage file activity.
        - b. Generate the file with item records grouped by organization (org Id)
      - e. Read item collection grouped by Organization.
      - f. For each Organization:
        - a. Get all active **storage** type sub inventories. Invoke the sub inventories ERP REST API /fscmRestApi/resources/11.13.18.05/subinventories



- b. If no sub inventories are returned:
- Send an email and throw the following fault:  
 “The Org:<org id> or <org code> doesn't have Sub inventory, hence SID for this item:<item id > or <item code> cannot be created.”
- c. In each sub inventory, for each item record in the file, do the following:
- Derive the PTIR value.
  - Transform the item and sub inventory data to the Oracle Utilities Work and Asset Cloud Service stock item detail format.
  - Invoke WACS IWS W1-StockItemDetails.
  - If Oracle Utilities Work and Asset Cloud Service returns a fault:
    - Add the item unique ID/value in the error and error details to the Oracle Utilities Work and Asset Cloud Service error collection.
    - Then, continue with the next item record.
  - After all records are processed, check for any Oracle Utilities Work and Asset Cloud Service errors encountered.
  - In case of any errors, invoke the Error Handler ([OU WACS ERPSCM Common Error Handler](#)) flow.
  - This flow sends optional process complete mail notification based on the “notification.email.process.complete.flag” config property value in the OUTL-BRT-WACS\_ERPSCM\_ConfigProps lookup.

## Technical Details

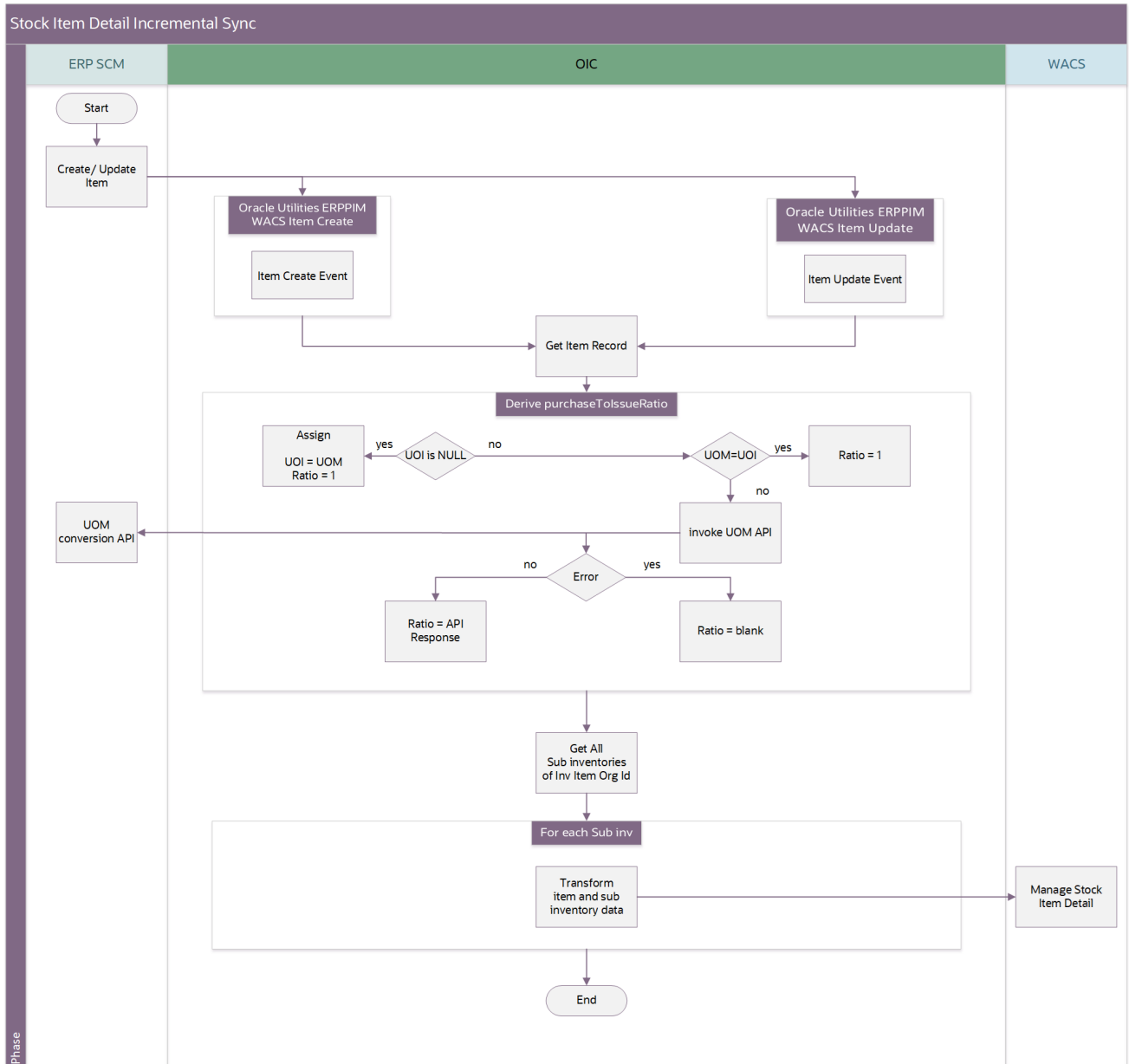
The following table describes the integration processes and the respective artifacts used in this integration process:

| Artifacts                       | Value                                       |
|---------------------------------|---|
| Integration Process Name        | OU ERPSCM WACS Stock Item Detail Bulk Load  |
| Project Name                    | OU WACS ERPSCM                              |
| Oracle Utilities Adapter (SOAP) | OU SOAP WACS for WACS-ERPSCM                |
| Oracle ERP Cloud Adapter        | OU ERPSCM Cloud for WACS-ERPSCM             |
| REST Adapter                    | OU REST ERP for WACS-ERPSCM                 |
| SOAP Adapter                    | OU SOAP UCM Generic Service for WACS-ERPSCM |
| Oracle Utilities Adapter (REST) | OU REST WACS for WACS-ERPSCM                |

## OU ERPSCM WACS Stock Item Detail Incremental Sync

This integration process synchronizes the inventory item created/updated in Oracle Fusion ERP Cloud to Stock Item Details in Oracle Utilities Work and Asset Cloud Service storerooms. It is invoked whenever an item is created or updated in Oracle Fusion ERP Cloud.

The following diagram shows a graphical representation of the OU ERPSCM WACS Stock Item Detail Incremental Sync integration process:



## Processing Details

This is an asynchronous scheduled integration process deployed on Oracle Integration Cloud and performs the following activities:

1. Get the item data from Oracle Utilities ERPPIM WACS Item Create/Oracle Utilities ERPPIM WACS Item Update flows in the OU WACS ERPPIM project.
2. Create the global variables for UOM, UOI, PTIR (purchase to issue ratio) and Org Id.
3. Assign UOM, UOI, and OrgId with the respective values.
4. Derive the PTIR value.
  - a. If UOI is 'Null':
    - a. Assign UOI = UOM
    - b. Assign '1' to PTIR
  - b. If UOM = UOI:
    - a. Assign '1' to PTIR.
    - b. Else, invoke the “UnitOfMeasureConversions” Oracle Fusion ERP Cloud REST service:
      - c. If the API returns an error, assign blank value to PTIR.
      - d. Else, assign API response > *ConversionFactor* to PTIR.
5. Using OrgId as the input parameter, get all sub inventories. Invoke the “/fscmRestApi/resources/11.13.18.05/subinventories” Oracle Fusion ERP Cloud REST API.
6. For each active and storage type sub inventory:
  - a. Transform the item and sub inventory data to the Oracle Utilities Work and Asset Cloud Service stock item detail format.
  - b. Invoke the “**W1-StockItemDetail**” Oracle Utilities Work and Asset Cloud Service Inbound Web Service, operation name: manageStockItemDetail.
  - c. If Oracle Utilities Work and Asset Cloud Service returns a fault, add the Item unique ID/value in error and error details to the Oracle Utilities Work and Asset Cloud Service error collection.
  - d. Then, continue with the next sub inventory record.
7. If error count > 0:
  - a. Send the error collection to common error handler.
  - b. Transform the “ERROR” response to SI create/update flow accordingly.
8. Else (when all SIDs are processed successfully), transform the “SUCCESS” response to SI create/update flow accordingly.
9. This flow sends an optional process complete mail notification, based on the “notification.email.process.complete.flag” configuration property value.

## Technical Details

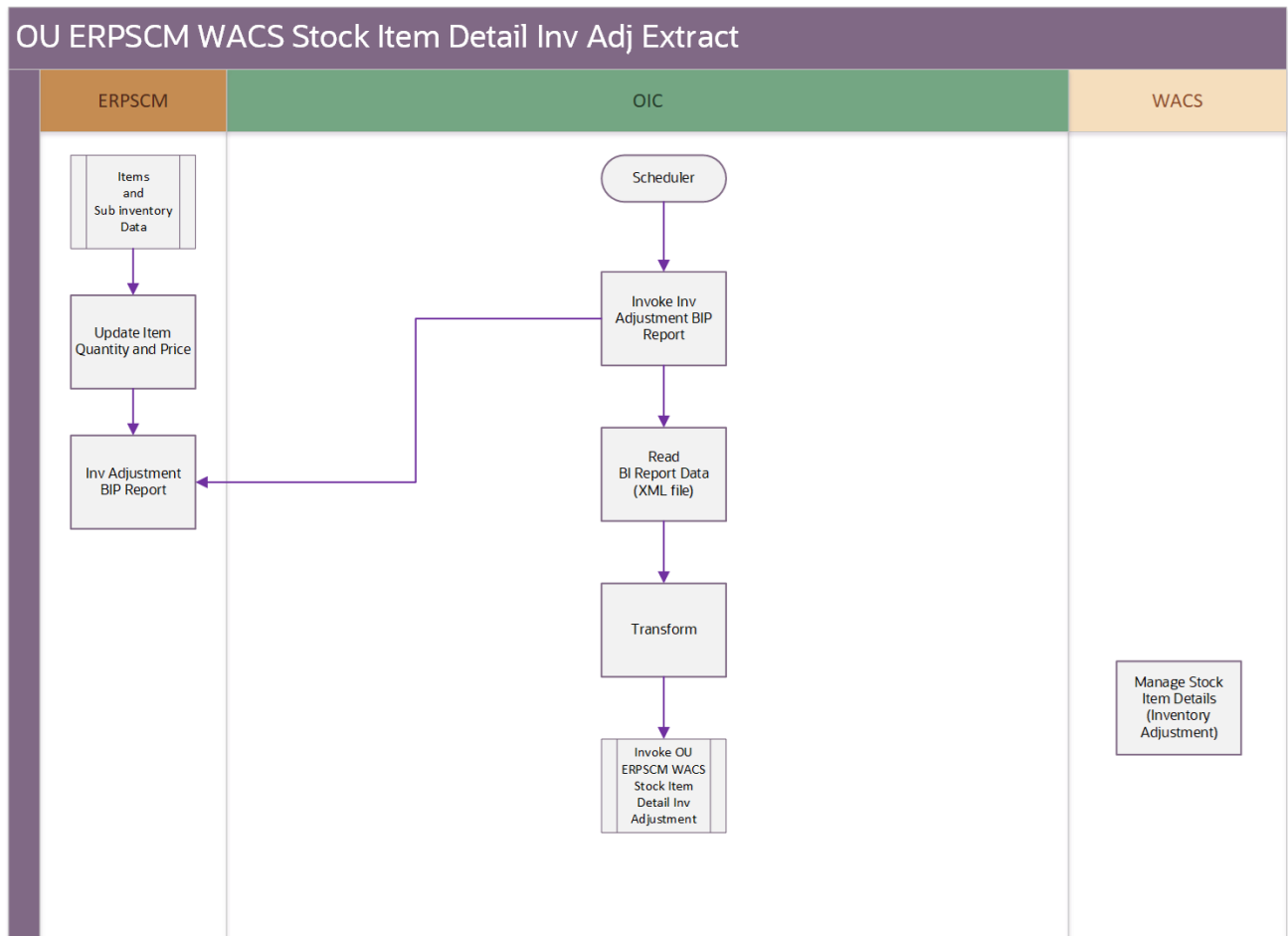
The following table describes the integration processes and the respective artifacts used in this integration process:

| Artifacts                       | Value   |
|---------------------------------|---|
| Integration Process Name        | OU ERPSCM WACS Stock Item Detail Incremental Sync |
| Project Name                    | OU WACS ERPSCM                                    |
| REST Adapter                    | OU REST Trigger for WACS-ERPSCM                   |
| Oracle Utilities Adapter (REST) | OU REST WACS for WACS-ERPSCM                      |
| REST Adapter                    | OU REST ERP for WACS-ERPSCM                       |
| Oracle ERP Cloud Adapter        | OU ERPSCM Cloud for WACS-ERPSCM                   |

## OU ERPSCM WACS Stock Item Detail Inv Adj Extract

This integration process gets the item quantity and unit price for all the sub inventories from Oracle Supply Chain Management and sends it to child to process the same.

The following diagram shows a graphical representation of the OU ERPSCM WACS Stock Item Detail Inv Adj Extract integration process:



## Processing Details

This is an asynchronous scheduled integration process deployed on Oracle Integration Cloud and performs the following activities:

1. The Oracle Integration Cloud flow is a scheduler driven integration with the schedule parameter as “last run date time”.
2. Invokes the ExternalReportWebservice BI report to get the item details from Oracle Fusion ERP Cloud.
3. Reads the BI report data using the stage file activity.
4. Transforms the item records.
5. Invokes the child [OU ERPSCM WACS Stock Item Detail Inv Adjustment](#) Oracle Integration Cloud flow.
6. If the child flow response is successful:
  - Update the schedule parameter.
7. Else:
  - Invoke the error handler and throw fault.

## Technical Details

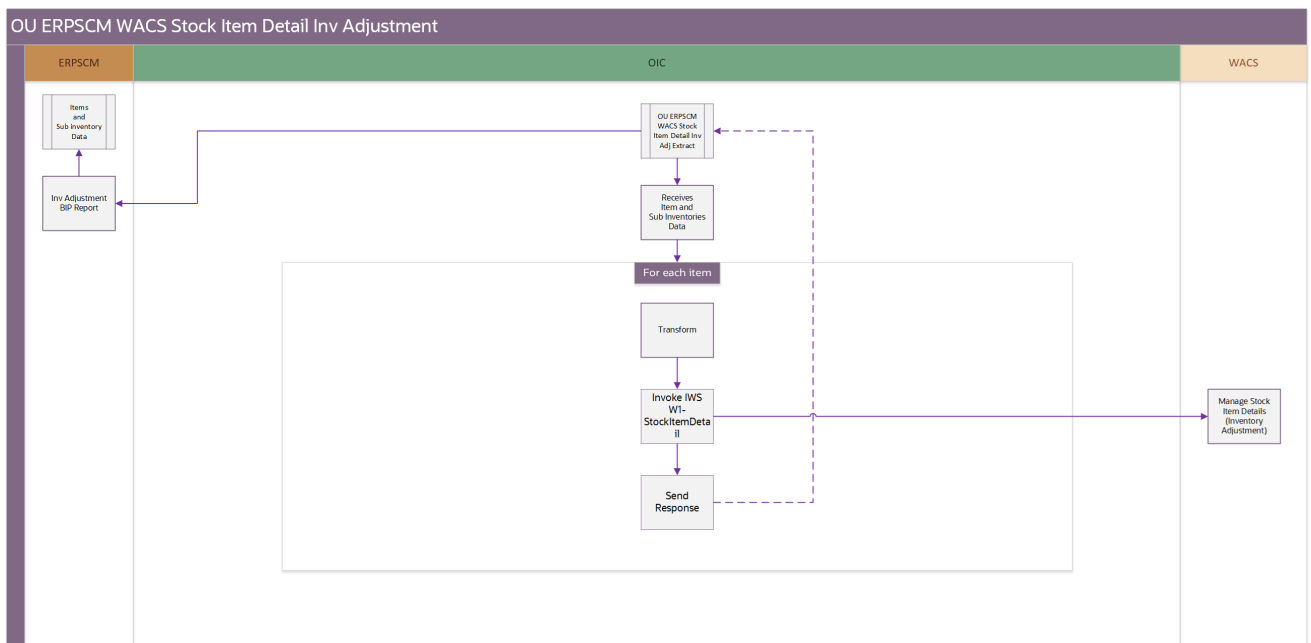
The following table describes the integration processes and the respective artifacts used in this integration process:

| Artifacts                | Value  |
|--------------------------|--|
| Integration Process Name | OU ERPSCM WACS Stock Item Detail Inv Adj Extract |
| Project Name             | OU WACS ERPSCM                                   |
| SOAP Adapter             | OU BI ERP SCM for WACS-ERPSCM                    |

## OU ERPSCM WACS Stock Item Detail Inv Adjustment

This integration process gets the item records from Oracle Fusion ERP Cloud, from the parent OU ERPSCM WACS Stock Item Detail Inv Adj Extract, and updates the stock item details in Oracle Utilities Work and Asset Cloud Service with Oracle Fusion ERP Cloud item quantity and price it to Oracle Utilities Work and Asset Cloud Service.

The following diagram shows a graphical representation of the OU ERPSCM WACS Stock Item Detail Inv Adjustment integration process:



## Processing Details

This Oracle Integration Cloud flow is an application driven integration. It performs the following activities:

1. Gets item data from the extract flow.
2. For each record:
  - a. Transforms the data.
  - b. Invokes WAM REST IWS W1-StockItemDetail, operation name: /inventoryAdjustment

- c. If there is no error, increase the processed/success record count
  - d. In case of an error, add it to the error collection.
3. Send the completion email with error and success count.
  4. If error count > 0, invoke the Common Error Handler ([OU WACS ERPSCM Common Error Handler](#)) flow to send an optional email notification.

### Technical Details

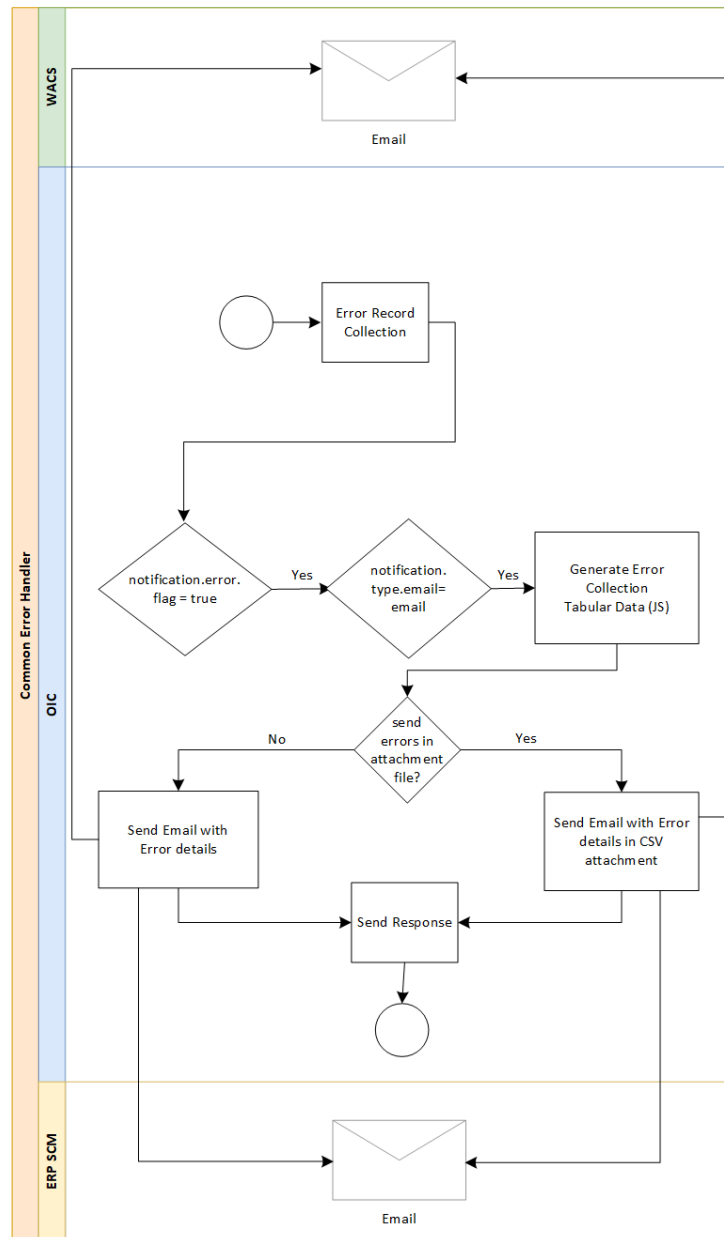
The following table describes the integration processes and the respective artifacts used in this integration process:

| Artifacts                       | Value   |
|---------------------------------|---|
| Integration Process Name        | OU ERPSCM WACS Stock Item Detail Inv Adjustment |
| Project Name                    | OU WACS ERPSCM                                  |
| Oracle Utilities Adapter (REST) | OU REST WACS for WACS-ERPSCM                    |
| REST Adapter                    | OU REST Trigger for WACS-ERPSCM                 |

## OU WACS ERPSCM Common Error Handler

This application driven integration gets a collection of error records from the other integration processes the integration.

The following diagram shows a graphical representation of the OU WACS ERPSCM Common Error Handler process:



## Processing Details

This integration process is an application driven orchestrator deployed on Oracle Integration Cloud. It is initiated when the other integration process throws an error. It is executed as follows:

1. The process gets a collection of error records.
2. Initialize the variables.
3. If the notification flag is set to 'true':
  - If the notification type is set to 'email':
    - Send errors as attachment.



- 
- Write the error records header to a CSV file using the stage file activity.
  - Write the error records to a CSV file using the stage file activity, with 'Append' option selected.
4. Send email notification with the CSV file reference.
  5. Else, invoke the getHTMLdata JS extension function to display the error details in a tabular format.
  6. Send an email notification.

### Technical Details

The following table describes the integration processes and the respective artifacts used in this integration process:

| Artifacts                | Value                               |
|--------------------------|-------------------------------------|
| Integration Process Name | OU WACS ERPSCM Common Error Handler |
| Project Name             | OU WACS ERPSCM                      |
| REST Adapter             | OU REST Trigger for WACS-ERPSCM     |

# Chapter 3

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## Configuring Oracle Utilities Work and Asset Cloud Service

This chapter provides details about the configuration settings needed in Oracle Utilities Work and Asset Cloud Service for this integration. It includes the following sections:

- [One-Time Configuration Setup](#)
- [Configuring Admin Data](#)

# One-Time Configuration Setup

Certain one-time configuration settings must be coordinated manually to make sure proper flow of data between the two applications.

## Configuring Admin Data

This section describes the admin data setup in Oracle Utilities Work and Asset Cloud Service related to the integration. The **Admin** menus can be configured to be grouped alphabetically or by functional groups. The descriptions that follow will include both groupings.

- [Master Configuration](#)
- [ERP Admin Record](#)

## Master Configuration

This section describes the master configuration details for the integration. The following Master Configurations can be found from the **Admin menu [M or General] > Master Configuration**.

- [ERP Integration Master Configuration](#)
- [Seeder Sync Request Master Configuration](#)

### ERP Integration Master Configuration

To create ERP Integration Master Configuration:

1. Navigate to **Admin Menu > M > Master Configuration**.
2. Click '+' against the **ERP Integration Master Config** value in the master configuration table.
3. In the **Master Configuration Details** section, select the **ERP Integration Master Config (W1-ERPIntegrationMasterConfig)** business object.
4. Navigate to **Master Configuration > ERP Integration Master Config**.
  - a. In the **Main** section, define the Oracle ERP External System.
  - b. In the **Financial Configuration** section, populate the account segments. One must be the Cost Center segment and another the Expense Code segment defined. The following table shows a sample reference.

| Sequence | Element Name                      | Account Segment Type | Include in Cost Center |
|----------|-----------------------------------|----------------------|------------------------|
| 1        | cmAccountSegments/ company        |                      | No                     |
| 2        | cmAccountSegments/lob             |                      | No                     |
| 3        | cmAccountSegments/costCenter      |                      | Yes                    |
| 4        | cmAccountSegments/<br>expenseCode |                      | No                     |

| Sequence | Element Name                       | Account Segment Type | Include in Cost Center |
|----------|------------------------------------|----------------------|------------------------|
| 5        | cmAccountSegments/product          |                      | No                     |
| 6        | cmAccountSegments/<br>intercompany |                      | No                     |
| 7        | cmAccountSegments/segment7         |                      | No                     |
| 8        | cmAccountSegments/segment8         |                      | No                     |
| 9        | cmAccountSegments/segment9         |                      | No                     |
| 10       | cmAccountSegments/segment10        |                      | No                     |

c. In the **Supply Chain Management Configuration** section, configure the following:

- In the **Storeroom Information** section, the Storeroom Category flag sent by the integration should map to a valid Storeroom Type. This value is configured in the 'wacs.storeroom.category' property in the OUTL-BRT-WACS\_ERPSCM\_ConfigProps lookup in Oracle Integration Cloud.  
**Note:** Currently only Standard Storeroom Category is supported in this release.
- In the **Stock Item Detail Information** section, the Stock Item Detail Class flags sent from the integration should map to Oracle Utilities Work and Asset Management Stock Item Detail business objects. This value is configured in the item.assign.stockitemdetail.class property in the OUTL-BRT-WACS\_ERPSCM\_ConfigProps lookup in Oracle Integration Cloud.
- In the **Accounting Information** section, populate the necessary fields.

d. In the **Key Reference Mappings** section, Stock Item Detail, Material Issue Line, and Node Mappings must be provided.

The following table shows a sample reference.

| Maintenance Object  | Ongoing Sync Key Reference View         | Identifier Type |
|---------------------|---|-----------------|
| Material Issue Line | Integration Key Material Issue View     | W1-EXTID        |
| Node                | Ongoing Sync Key Location View          | W1SE            |
| Stock Item Detail   | Ongoing Sync Key Stock Item Detail View | W1EX            |

## Seeder Sync Request Master Configuration

To create Seeder Sync Request Master Configuration:

1. Navigate to **Admin Menu > M > Master Configuration**.
2. Click '+' against the **Seeder Sync Request Master Config** value in the master configuration table.
3. In the **Master Configuration Details** section, select the **Seeder Sync Request Master Config (W1-SeederSyncReqMasterConfig)** business object.

4. Navigate to **Master Configuration > Seeder Sync Request Master Configuration**.
  - a. Create a row for the ERP External System, add the Cost Center and Resource Type Maintenance Object (MO) request mappings, and define the Ongoing Sync Request Business Objects and Key Reference Views.

The following table shows a sample reference.

| Maintenance Object                 | Ongoing Sync request BO  | Ongoing Sync Key Reference View                                       | Identifier Type |
|------------------------------------|--|---|-----------------|
| W1-COSTCTR<br>(Cost Center)        | W1-OngoingSync<br>RequestCostCtr (Cost Center<br>Ongoing Sync Request)     | W1_ON_COST_<br>CENTER_VW<br>(Ongoing Sync<br>Key Cost Center<br>View) | W1EI            |
| W1-RESRCTYPE<br>(Resource<br>Type) | W1-<br>OngoingSyncRequestStockItem<br>(Stock Item Ongoing Sync<br>Request) | W1_ON_STOCK_<br>ITEM_VW<br>(Ongoing Sync<br>Key Stock Item<br>View)   | W1EI            |

## ERP Admin Record

This section describes the Enterprise Resource Planning integration related configurations for the integration.

The Stock Item Detail, Stock Transaction, and Material Issue Line maintenance objects should be owned by Oracle Fusion ERP Cloud.

1. Navigate to **Admin Menu > E > ERP Integration > Add**.
2. Select “Stock Item Detail” as the **Maintenance Object**.
3. Select “Enterprise Resource Planning” as the **Owner**.
4. Repeat the steps 2 and 3 for the “Stock Transaction” and “Material Issue Line” maintenance objects.

# Chapter 4

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## Configuring Oracle Supply Chain Management

For Oracle Supply Chain Management configuration details, refer to the *Oracle Supply Chain Management Configurations for Oracle Utilities Work and Asset Cloud Service Integration to Oracle Supply Chain Management Setup Guide* included in this release.

The documentation is available on Oracle Help Center at: <https://docs.oracle.com/en/industries/energy-water/integrations-index.html>

# Chapter 5

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## Importing, Configuring, and Testing Integration Connections

This chapter provides the configuration settings required for the integration, including:

- [Importing the Oracle Integration Cloud Project from Oracle Cloud Marketplace](#)
- [Verifying the Project Import](#)
- [Configuring Connections in Oracle Integration Cloud](#)
- [Setting up Certificates for Security](#)

# Importing the Oracle Integration Cloud Project from Oracle Cloud Marketplace

All integration points are shipped as part of single project (.car) file.

To import a pre-built integration from Oracle Cloud Marketplace:

1. Launch the [Oracle Cloud Marketplace](#) portal.
2. Click **Applications**.
3. Search for “Oracle Utilities Work and Asset Cloud Service”.
4. Browse through the list of applications and select the pre-built integration project to import.
5. Click **GetApp**.
6. Review and accept “Oracle Standard Terms and Restrictions”.
7. Click **Next**. My Oracle Support portal opens.
8. Download the integration project from My Oracle Support.
9. When prompted, select the server where the pre-built integration file should be uploaded.

The pre-built integration is imported as a project file that is visible on the **Projects** page in Oracle Integration Cloud.

10. On the **Integrations** page, the individual integrations of the imported project file that are designated with a BUILT BY ORACLE message are displayed.

**Important!** This note is applicable only for existing customers. Make sure to take a backup of the existing project and lookups, and perform the cleanup before proceeding with the new project import. The cleanup includes deactivating the existing flows in this project and deleting the project, connections, lookups and libraries used in the integration.

To import a project in Oracle Integration Cloud:

1. Login to Oracle Integration Cloud.
2. Navigate to **Integrations > Designer > Projects**.
3. Click **Import**.
4. Select the .car file downloaded from Oracle Cloud Marketplace.
5. Verify if the OU WACS ERPSCM project is imported successfully.

## Verifying the Project Import

To verify the OU WACS ERPSCM project import was successful:

1. Verify if the following integrations are imported successfully:
  - OU ERPSCM WACS Active Storeroom Sync
  - OU ERPSCM WACS Inactive Storeroom Sync
  - OU ERPSCM WACS Storeroom SID Sync



- OU ERPSCM WACS Stock Item Detail Bulk Load
  - OU ERPSCM WACS Stock Item Detail Incremental Sync
  - OU ERPSCM WACS Stock Item Detail Inv Adj Extract
  - OU ERPSCM WACS Stock Item Detail Inv Adjustment
  - OU WACS ERPSCM Common Error Handler
2. Verify if the following connections are in place.
    - OU BI ERP SCM for WACS-ERPSCM
    - OU SOAP WACS for WACS-ERPSCM
    - OU ERPSCM Cloud for WACS-ERPSCM
    - OU REST ERP for WACS-ERPSCM
    - OU SOAP UCM Generic Service for WACS-ERPSCM
    - OU REST WACS for WACS-ERPSCM
    - OU REST Trigger for WACS-ERPSCM
  3. Make sure that the following lookups are imported successfully.
    - OUTL-BRT-WACS\_ERPSCM\_ConfigProps
    - OUTL-BRT-WACS\_ERPSCM\_Country
    - OUTL-BRT-WACS\_ERPSCM\_Email\_ID
    - OUTL-BRT-WACS\_ERPSCM\_State
    - OUTL-BRT-WACS\_ERPSCM\_ITEM\_UOM

## Configuring Connections in Oracle Integration Cloud

After the project is imported and verified, the respective connections have to be configured.

This section describes the procedure to set up the following connections:

- [OU BI ERP SCM for WACS-ERPSCM](#)
- [OU SOAP WACS for WACS-ERPSCM](#)
- [OU ERPSCM Cloud for WACS-ERPSCM](#)
- [OU REST ERP for WACS-ERPSCM](#)
- [OU SOAP UCM Generic Service for WACS-ERPSCM](#)
- [OU REST WACS for WACS-ERPSCM](#)
- [OU REST Trigger for WACS-ERPSCM](#)

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## OU BI ERP SCM for WACS-ERPSCM

This connection is used to invoke the BI Report SOAP service in Oracle Fusion ERP Cloud.

To configure the OU BI ERP SCM for WACS-ERPSCM connection:

1. Login to Oracle Integration Cloud and navigate to the connection.
2. In the **Connection Properties** section, enter the BI Report Service WSDL URL.
3. Click **Test** at the upper-right corner.
4. After the connection is tested successfully, click **Save**.

## OU SOAP WACS for WACS-ERPSCM

This connection is used to connect to Oracle Utilities Work and Asset Cloud Service.

To configure the OU SOAP WACS for WACS-ERPSCM connection:

1. Login to Oracle Integration Cloud and navigate to the connection from the **Projects** page.
2. In the **Connection Properties** section, enter the catalog WSDL URL.
3. In the **Security** section:
  - a. Select **Basic Authentication Security Policy**.
  - b. Enter the ERP **Username** and **Password** to connect to Oracle Assets.
4. Click **Test** at the upper-right corner.
5. After the connection is tested successfully, click **Save**.

## OU ERPSCM Cloud for WACS-ERPSCM

This connection is used to invoke Oracle Supply Chain Management cloud for ERPSCM using Oracle ERP Cloud adapter.

To configure the OU ERPSCM Cloud for WACS-ERPSCM connection:

1. Login to Oracle Integration Cloud and navigate to the connection.
2. In the **Connection Properties** section, enter the Oracle Fusion ERP Cloud Host URL.

Example: `https://ERP_domain_name.ds-fa.oraclecloud.com`

**Note:** The Oracle Fusion ERP Cloud host name can easily be derived from the Oracle Fusion ERP Cloud login URL.

3. In the **Security** section:
  - a. Select **Username Password Token Security Policy**.
  - b. Enter the ERP **Username** and **Password** to connect to Oracle Supply Chain Management.
4. Click **Test** at the upper-right corner.
5. After the connection is tested successfully, click **Save**.

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## OU REST ERP for WACS-ERPSCM

This connection is used to invoke the ERPSCM REST APIs to get the Location/Organization/subinventories using REST adapter.

To configure the OU REST ERP for WACS-ERPSCM connection:

1. Login to Oracle Integration Cloud and navigate to the connection.
2. In the **Connection Properties** section:
  - a. Select “restUrl” as the **Connection Type**.
  - b. Enter the ERP Cloud Host URL.
3. In the **Security** section:
  - a. Select **Basic Authentication Security Policy**.
  - b. Enter the **Username** and **Password** to connect to Oracle Utilities Work and Asset Cloud Service.
4. Click **Test** at the upper-right corner.
5. After the connection is tested successfully, click **Save**.

## OU SOAP UCM Generic Service for WACS-ERPSCM

This connection is used to connect to UCM server in Oracle Fusion ERP Cloud.

To configure OU SOAP UCM Generic Service for WACS-ERPSCM connection:

1. Login to Oracle Integration Cloud and navigate to the connection from the **Project** page.
2. In the **Connection Properties** section, enter the WSDL URL.
3. In the **Security** section:
  - a. Select **Basic Authentication Security Policy**.
  - b. Enter the ERP **Username** and **Password** to connect to Oracle Utilities Work and Asset Cloud Service.
4. Click **Test** at the upper-right corner.
5. After the connection is tested successfully, click **Save**.

## OU REST WACS for WACS-ERPSCM

This connection is used to connect to Oracle Utilities Work and Asset Cloud Service using REST adapter.

To configure OU REST WACS for WACS-ERPSCM connection:

1. Login to Oracle Integration Cloud and navigate to the connection.
2. In the **Connection Properties** section
  - a. Select “restUrl” as the **Connection Type**.
  - b. Enter the WACS Cloud Host URL.
3. In the **Security** section:
  - a. Select **Basic Authentication Security Policy**.

- b. Enter the ERP **Username** and **Password** to connect to Oracle Utilities Work and Asset Cloud Service.
4. Click **Test** at the upper-right corner.
5. After the connection is tested successfully, click **Save**.

## OU REST Trigger for WACS-ERPSCM

This connection is used to receive and send stock item details across the Oracle Integration Cloud integration flows using REST adapter. It is also used to invoke the common error handler Oracle Integration Cloud flow.

To configure the OU REST Trigger for WACS-ERPSCM connection:

1. Login to Oracle Integration Cloud and navigate to the connection.
2. In the **Security** section, select **OAuth2.0 Security Policy**.
3. Click **Test** at the upper-right corner.
4. After the connection is tested successfully, click **Save**.

## Setting up Certificates for Security

**Important!** Skip this section if there are valid CA certificates for the integration.

If there no valid certificates for this integration, download the Oracle Utilities Work and Asset Cloud Service certificates and upload them to Oracle Integration Cloud to handshake with Oracle Utilities Work and Asset Cloud Service.

To download the Oracle Utilities Work and Asset Cloud Service certificate:

1. Login to Oracle Utilities Work and Asset Cloud Service.
2. Click the URL on the top-left corner.
3. On the **Security** tab, click **View Certificate**.
4. On the **Details** tab, click **Export**.
5. Save the certificate.

To upload the certificate to Oracle Integration Cloud:

1. Login to Oracle Integration Cloud with Admin credentials.
2. Navigate to **Settings > Certificates**.
3. On the **Certificate** window, click **Upload**.
4. Select **Certificate Type** as **Trust Certificate**.
5. Provide the **Certificate Alias Name**.
6. Select the certificate to upload.
7. Click **Upload**.

# Chapter 6

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## Configuring Lookups, Error Handling, and Email Notifications

This chapter describes the lookup configuration, error handling for faults encountered and email notifications in this integration. It includes the following sections:

- [Configuring Lookups](#)
- [Configuration Properties](#)
- [Error Handling](#)
- [Email Notifications](#)

## Configuring Lookups

The following table lists the lookups that are part of this integration.

| DVM Name                         | Description  |
|----------------------------------|--|
| OUTL-BRT-WACS_ERPSCM_ConfigProps | Used to configure the integration properties. Maps the <b>PropertyName</b> column to the respective <b>Value</b> column.<br><b>Note:</b> Do not change the values under the <b>PropertyName</b> column.          |
| OUTL-BRT-WACS_ERPSCM_Country     | Used to map ERPSCM <b>Country</b> to the WACS <b>Country</b> value.  |
| OUTL-BRT-WACS_ERPSCM_Email_ID    | Used to configure email IDs to receive notifications. It maps the 'from' and 'to' recipient values to the mentioned email IDs. You can configure multiple emails by including a comma to separate the email IDs. |
| OUTL-BRT-WACS_ERPSCM_State       | Used to map ERPSCM <b>State</b> to the WACS <b>State</b> value.  |
| OUTL-BRT-WACS_ERPSCM_ITEM_UOM    | Used to map the ERPSCM <b>UOM</b> value to the WACS <b>UOM</b> value.  |

## Editing Lookups

To edit a lookup:

1. Login to Oracle Integration for Cloud.
2. Navigate to **Projects > OU WACS ERPSCM > Lookups**.
3. Select the lookup to edit.
4. Make the necessary changes.
5. Click **Save** and **Close**.

## Configuration Properties

The UTL-BRT-WACS\_ERPSCM\_ConfigProps lookup contains the properties that can be configured and defaulted in the integration.

| Property Name                          | Sample Value | Description  |
|--|--------------|--|
| wacs.externalsystem                    | ERP          | Fixed value "ERP"  |
| wacs.storeroom.category                | W1ST         | Storeroom Category fixed value "W1ST"  |
| wacs.storeroom.active.code             | W1AC         | Storeroom Active Code fixed value "W1AC"   |
| notification.email.procescomplete.flag | true         | Set to "true" to send notification after integration is processed. Else, set to "false". |

| Property Name                          | Sample Value  | Description  |
|--|---|--|
| notification.email.process.nofile.flag | true  | Set to “true” to send when no file is found. Else, set to “false”.                                       |
| fileprocessed.prefixtag                | Sent-   | File prefix needs to be updated to Sent-/-/ Processed- when it is processed successfully without errors. |
| filenotprocessed.prefixtag             | Error-  | File prefix needs to be updated to Error- when it is processed with errors.                              |
| item.assign.stockitemdetail.class      | W1IN  | Stock item details class fixed value “W1IN”  |
| execute.sid.bulk                       | yes   | Set to “yes” to run SID sync in bulk.  |
| wacs.storerom.batchtype                | increment   | Property used to identify bulk or increment storerom sync to call SID sync process.                      |
| item.adjust.bireport                   | /Custom/<br>SCMWACS/Inv<br>Adj/<br>ERPSCM_InvAdjReport_WACS.xdo | Path of the BI Report Object.  |
| notification.type.email                | email   | Notification type  |
| notification.error.flag                | true  | Flag used in error handler to send an email notification.  |
| wacs.sid.active.code                   | ACTIVE  | Active storerom SID Sync fixed value “ACTIVE”  |
| wacs.sid.inactive.code                 | INACTIVE  | Inactive storerom SID Sync fixed value “INACTIVE”  |
| wacs.storerom.inactive.code            | W1IA  | Inactive Storerom code fixed value “W1IA”  |
| wacs.sid.create.code                   | CREATED   | SID Create Code fixed value “CREATED”  |
| erp.subinventory.type                  | Storage   | SubInvType fixed value “Storage”   |

## Error Handling

This section provides information about the different ways used to handle errors in the integration and also resubmitting the instances after rectifying the errors.

- [Error Handling Ways](#)
- [Resubmitting the Error Instances in Oracle Integration Cloud](#)

## Error Handling Ways

In this integration, all integration flows are asynchronous. This section describes error handling for asynchronous flows.

- [Asynchronous Flow Error Handling](#)
- [Summary of Integration Error Handling](#)

### Asynchronous Flow Error Handling

#### Technical Fault

This fault occurs when there is a datatype mismatch or any Xpath related error.

#### Remote Fault

This fault occurs when the target system is down or not accessible.

#### Business Fault

These faults are application-specific faults that occur when there is a problem with the information being processed in the target application due to invalid data or business error validations.

When the file completes processing, an optional email is sent with the list of remaining errors to the respective users configured in the OUTL-BRT-WACS\_ERPSCM\_EMAIL\_ID lookup.

### Summary of Integration Error Handling

#### Integration Process: OU ERPSCM WACS Active Storeroom Sync

| Type of error   | Action           | Notification Type                         | Retry |
|---|------------------|---|-------|
| Technical<br>Example: No files to extract in the UCM  | Stop process     | Email                                     |       |
| Remote<br>Example: If the Address is missing from ERP | Continue process | Collect errors and send errors in message |       |

#### Integration Process: OU ERPSCM WACS Inactive Storeroom Sync

| Type of error  | Action       | Notification Type | Retry                               |
|--|--------------|-------------------|-------------------------------------|
| Technical<br>Example: Incorrect BIP report path in the lookup. | Stop process | Email             | Resubmit the scheduler correct path |



| Type of error  | Action           | Notification Type                         | Retry |
|--|------------------|---|-------|
| Remote<br><br>Example: If the Address is missing in the storeroom record from ERP. | Continue process | Collect errors and send errors in message |       |

#### Integration Process: OU ERPSCM WACS Storeroom SID Sync

| Type of error   | Action       | Notification Type | Retry |
|---|--------------|-------------------|-------|
| Remote<br><br>Example: If the WACS service is not accessible. | Stop process | Email             |       |

#### Integration Process: OU ERPSCM WACS Stock Item Detail Inv Adj Extract

| Type of error   | Action           | Notification Type                         | Retry   |
|---|------------------|---|---|
| Technical<br><br>Example: BIP in ERP is not accessible. | Stop process     | Email                                     | Resubmit the fixed asset addition error instance from OIC |
| Remote<br><br>No adjustments records found.             | Stop the flow    | Email                                     |   |
| Business  | Continue process | Collect errors and send errors in message |   |

#### Integration Process: OU ERPSCM WACS Stock Item Detail Inv Adjustment

| Type of error   | Action       | Notification Type | Retry |
|---|--------------|-------------------|-------|
| Remote<br><br>Example: WACS service is not accessible | Stop Process | Email             |       |

| Type of error | Action           | Notification Type                         | Retry |
|---------------|------------------|---|-------|
| Business      | Continue process | Collect errors and send errors in message |       |

#### Integration Process: OU ERPSCM WACS Stock Item Detail Bulk Load

| Type of error                             | Action                           | Notification Type                         | Retry                                 |
|---|----------------------------------|---|---------------------------------------|
| Remote<br>Example: WACS is not accessible | Stop process                     | Email                                     | Resubmit the error instance from OIC. |
| Technical<br>Example: No file fund        | Stop                             | Email                                     |                                       |
| Business                                  | Continue process                 | Collect errors and send errors in message |                                       |
| Business<br>Example: If UOM is missing    | Skip record and continue process | Collect errors and send errors in message |                                       |

#### Integration Process: OU ERPSCM WACS Stock Item Detail Incremental Sync

| Type of error                             | Action           | Notification Type                         | Retry                                 |
|---|------------------|---|---------------------------------------|
| Remote<br>Example: WACS is not accessible | Stop process     | Email                                     | Resubmit the error instance from OIC. |
| Business                                  | Continue process | Collect errors and send errors in message |                                       |

## Resubmitting the Error Instances in Oracle Integration Cloud

In this integration, all processes are asynchronous flows so the resubmit option is available in Oracle Integration Cloud if the process ends in a fault.

To resubmit the error instances in Oracle Integration Cloud:

1. Login to Oracle Integration Cloud.
2. Navigate **Integrations > Monitoring > Errors**.
3. Select the integration to resubmit.
4. Click the **Resubmit** icon.

## Email Notifications

This pre-built integration includes a configurable email notification.

To receive an email notification:

1. Login to Oracle Integration Cloud.
2. Navigate to **Integrations > Designer > Lookups**.
3. Edit the **OUTL-BRT-WACS\_ERPSCM\_Email\_IDs** lookup.
  - a. In the **from** field, enter the email ID to receive an email from.
  - b. In the **to** field, enter the email ID to send the email to.
  - c. In the **Email\_ID** field, provide the comma separated email IDs.

**Note:** In the **OUTL-BRT-WACS\_ERPSCM\_Email\_IDs** lookup, do not edit the values provided under the **Recipient** column.

# Chapter 7

## Extension Libraries in Oracle Integration Cloud

The extension libraries provide a means to register and organize JavaScript for use in integrations. Library functions are automatically available for you to drag from the Actions palette to your orchestration integrations.

This integration includes the following extension libraries:

| Extension Library                  | Function                     | Description   | Used in Integration                 |
|------------------------------------|------------------------------|---|-------------------------------------|
| OU WACS ERPSCM Generate Error HTML | generateTable fromXML String | Function to convert the Error handler collection data in XML format to Tabular format | OU WACS ERPSCM Common Error Handler |

The same extension libraries can be accessed from the **Projects > OU WACS ERPSCM > Libraries** page in Oracle Integration Cloud. For more information about extension libraries, refer to the Oracle Integration Cloud documentation.

# Chapter 8

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## Activating and Testing the Integration Flows

This section provides an overview of how integration flows are activated and tested. It includes the following sections:

- [Prerequisites](#)
- [Activating Integration Flows](#)

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## Prerequisites

The prerequisites are:

- Make sure that all lookups/DVMs are setup in Oracle Integration Cloud.
- Mandatory configurations are created in Oracle Supply Chain Management and Oracle Utilities Work and Asset Cloud Service.
- Check the roles and responsibilities for the implementation user performing the setups prior to configuration.

## Activating Integration Flows

To activate the integration flows:

1. Navigate to the **Projects** > OU WACS ERPSCM > integration to activate.
2. Drag the slider for that integration. When prompted to enable tracing, click **Yes** to view the instances.
3. Click **Activate**.

The integration takes time to get activated. The activated integration appears at the top of the integrations list.

# Chapter 9

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## Monitoring and Troubleshooting

This section provides information about monitoring and troubleshooting the integration. It includes the following:

- [Oracle Utilities Work and Asset Cloud Service](#)
- [Oracle Supply Chain Management](#)
- [Oracle Integration Cloud](#)

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# Oracle Utilities Work and Asset Cloud Service

For more information about errors and notifications, refer to the Oracle Utilities Work and Asset Cloud Service documentation.

## Oracle Supply Chain Management

- Scheduled processes can be verified from the scheduled process logs.
- Search for the process ID in the **Scheduled Process** page.
- From the process ID, log can be accessed to check the result.

For more information, refer to Oracle Supply Chain Management documentation.

## Oracle Integration Cloud

This section focuses on the monitoring Oracle Integration Cloud and troubleshooting any issues that occur during the integration activation.

### Monitoring Integration Flows

Integration flows are monitored using the following:

- Dashboard
- Cloud Logs

To monitor the integration flows from the Oracle Integration Cloud dashboard:

1. Login to Oracle Integration Cloud.
2. On the **Home** page, click **Monitoring**.
3. Select any of the following as required:
  - **Dashboards:** To monitor the complete dashboard of integration.
  - **Integrations:** To monitor each integration.
  - **Tracking:** To monitor instance and flow trace/activity stream of the integration.
  - **Error:** To monitor the integrations in 'error' state. Re-submit the asynchronous integration flows.

To monitor the integration flows using Oracle Integration Cloud logs:

1. Login to Oracle Integration Cloud.
2. On the **Home** page, click **Monitoring**.
3. On the navigation pane, click **Dashboards** to view the overall success/failure rate of the integration.
4. Navigate to the **Logs** menu.



5. In the right pane, click the link to show options for downloading the Oracle Integration Cloud logs or diagnostics logs.
6. In case of any issues, attach the diagnostic logs to a service request for help.

## Troubleshooting

If an activation fails, the Integrations page displays an error message.

To troubleshoot the activation error:

1. Click **Download Diagnostic Logs** to download the logs for diagnosing the issue.
2. Select **Enable Tracing**.

**TRACE ENABLED** is displayed next to **ACTIVE**.

Some of the sample cases are as follows:

- For any connectivity errors while activating the integration, make sure the trigger connection is successful. Test the connection, refresh the metadata and activate the integration.