Oracle Utilities Work and Asset Cloud Service Integration to Oracle Assets

Configuration Guide

Release 23B

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Oracle Utilities Work and Asset Cloud Service Integration to Oracle Assets Configuration Guide

Contents

Preface

Welcome to the Oracle Utilities Work and Asset Cloud Service Integration to Oracle Assets Configuration Guide for release 23B.

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 Assets.

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 Assets documentation	https://docs.oracle.com/en/industries/energy-water/integrations-index.html
Oracle Utilities Work and Asset Cloud Service documentation	https://docs.oracle.com/en/industries/energy-water/work-asset-cloud-service/index.html
Oracle Assets documentation	https://docs.oracle.com/en/cloud/saas/financials/23c/faalm/index.html

Additional Documentation

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

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
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.

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
OA	Oracle Assets
FBDI	File Based Data Import
CU	Compatible Unit
OS	Object Storage

Chapter 1

Overview

This chapter provides an overview of Oracle Utilities Work and Asset Cloud Service integration with Oracle Assets 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 Assets
- About Oracle Utilities Work and Asset Cloud Service
- About Oracle Integration Cloud
- Software Requirements
- Prerequisites
- Supported Business Processes

Overview of the Integration

Oracle Utilities Work and Asset Cloud Service helps users to track asset addition, installation, maintenance, and removal. Oracle Assets automates asset management and simplifies fixed asset accounting tasks. This pre-built integration performs assets addition, adjustment, and retirements in Oracle Assets based on Oracle Utilities Work and Asset Cloud Service asset transactions. It will ensure asset synchronization between both the systems.

About Oracle Assets

Oracle Assets is the central repository of asset records primarily responsible for automating asset management and simplifying complex financial accounting tasks on assets. It is a part of Oracle Fusion Cloud Financials. It is a unified source of asset data that includes information from both external feeder systems, such as Oracle Utilities Work and Asset Cloud Service and your Oracle Fusion applications. It gives global visibility into your assets, offers data security, as well as function access.

Automated business flows can be used for various transactions to simplify routine asset management tasks:

- Asset additions
- Asset transfers
- Asset Retirements
- Reclassifications
- Financial adjustments
- Legacy data conversions

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 the Process Builder the 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.

Software Requirements

The integration requires the following applications:

- Oracle Utilities Work and Asset Cloud Service
- Oracle Integration Cloud
- Oracle Assets

For the application versions, refer to the *Oracle Utilities Work and Asset Cloud Service Integration to Oracle Assets 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 Fusion Assets Cloud Configurations for Oracle Utilities Work and Asset Cloud Service Integration to Oracle Assets 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

Supported Business Processes

This integration supports the following key functionalities:

- Asset Additions from Oracle Utilities Work and Asset Cloud Service to Oracle Assets
  - Project Asset Additions to Project Capital Assets
  - Non-Project Asset Additions to Fixed Assets
- Asset Adjustments from Oracle Utilities Work and Asset Cloud Service to Oracle Assets
  - Project Asset Adjustments to Project Capital Assets
  - Non-Project Asset Adjustments to Fixed Assets
- Asset Retirements from Oracle Utilities Work and Asset Cloud Service to Fixed Assets

The following diagrams provide a high-level representation of the integration.
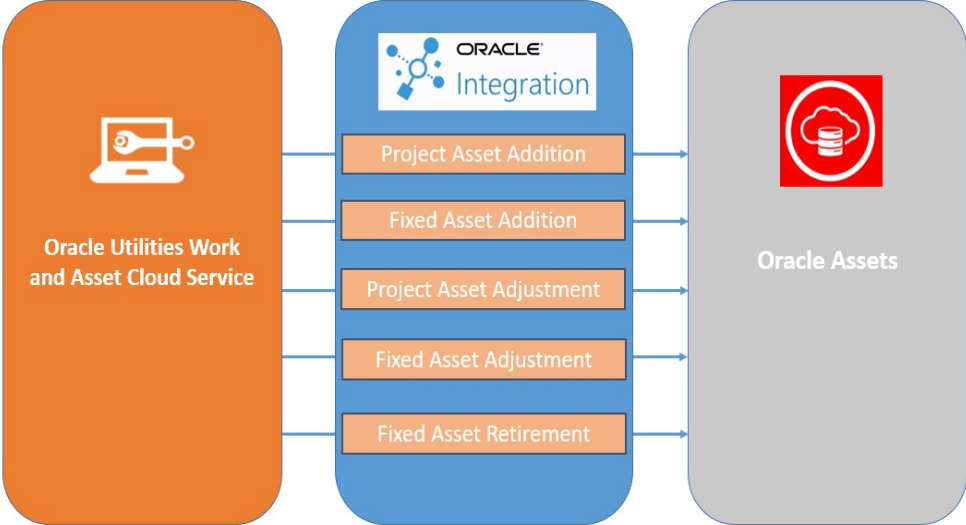
Chapter 2

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 Assets 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 invoke Asset FBDIs and scheduled processes in Oracle Fusion Cloud ERP/Oracle Assets. This invokes:

        - Fixed Asset Mass Additions FBDI

        - Prepare Asset Transaction Data scheduled process

        - Project Asset and Assignment FBDI

        - Fixed Asset Mass Transfer FBDI

        - Fixed Asset Mass Adjustment FBDI

        - Fixed Asset Mass Retirements FBDI

    - FTP adapter to interact with the Oracle Utilities Work and Asset Management FTP server to search, get, and rename the asset extract files.

    - REST Adapter to interact with the Oracle Utilities Work and Asset Cloud Service Object Storage to search, get, and rename the asset extract files.

    - REST Adapter to invoke ERPFA REST APIs to get the Asset Details and the Schedule Process/job status.

    - REST Adapter to receive and send asset records across Oracle Integration Cloud integration flows and also used to invoke the Common Error Handler Oracle Integration Cloud integration flow.

    - SOAP Adapter to invoke the ERP Integration Service for Post Mass Additions to Post the Fixed Asset data to Oracle Fusion Cloud ERP.

    - SOAP Adapter to invoke the ERP BI Report SOAP service.

- The integration pattern used for the solution is:

    - One-way Asynchronous for all flows.

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_ERPFA_CONFIGPROPS** lookup to 'true' and notification.type.email property to 'email' to receive email notification when errors are encountered.

7. The recipient(s) of the email notification is/are configured in the **OUTL-BRT-WACS_ERPFA_EMAIL_ID** lookup.
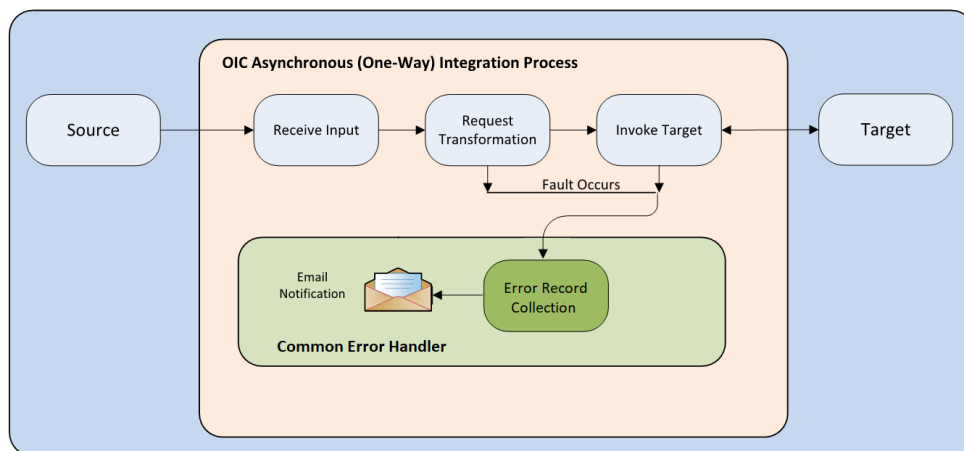
Refer to the Integration Flows section for more information about each integration process.

Business Processes

The integration scope supports the following business processes:

- Asset Additions from Oracle Utilities Work and Asset Cloud Service to Oracle Assets

  - Project Asset Additions to Project Capital Assets

  - Non-Project Asset Additions to Fixed Assets

- Asset Adjustments from Oracle Utilities Work and Asset Cloud Service to Oracle Assets

  - Project Asset Adjustments to Project Capital Assets

  - Non-Project Asset Adjustments to Fixed Assets

- Asset Retirements from Oracle Utilities Work and Asset Cloud Service to Fixed Assets

Asset Additions from Oracle Utilities Work and Asset Cloud Service to Oracle Assets

Assets added in Oracle Utilities Work and Asset Cloud Service will be added in Oracle Utilities Work and Asset Management either as Project Capital Assets or as Fixed Assets.

Project Asset Additions to Project Capital Assets

The assets added through a project associated with Oracle Utilities Work and Asset Cloud Service construction work activity will be integrated as adding the Project Capital Assets in Oracle Fusion Cloud ERP. The integration will create project asset and asset assignment definition in the Oracle Fusion Cloud ERP project through Import Asset and Assignments Process FBDI. The project asset cost will be derived from project transactions by standard project processes of Oracle Fusion Cloud ERP and not in the scope of the integration.

Non-Project Asset Additions to Fixed Assets

The assets added in Oracle Utilities Work and Asset Cloud Service without an associated project will be integrated as an addition of Fixed Assets through Fixed Assets Mass Additions Import FBDI.

Example: Addition of Capital Spare Assets and Customer Contributed Assets in Oracle Utilities Work and Asset Cloud Service are integrated as Fixed Assets in Oracle Fusion Cloud ERP.

Asset Adjustments from Oracle Utilities Work and Asset Cloud Service to Oracle Assets

Asset Adjustments will be done for project and non-project assets.

Project Asset Adjustments to Project Capital Assets

Asset cost or unit changes done through the project associated with Oracle Utilities Work and Asset Cloud Service construction work activities for already existing Fixed Assets in Oracle Fusion Cloud ERP, are sent as project asset adjustments in Oracle Fusion Cloud ERP. The unit adjustment in Oracle Utilities Work and Asset Management will be done through Fixed Assets Mass Transfers Import FBDI. The project asset cost adjustment will be derived from project transactions by standard project processes of Oracle Fusion Cloud ERP and not in scope of this integration.

Example: Capital Spare Asset installation through the project associated with Oracle Utilities Work and Asset Cloud Service construction work activity will be integrated as an adjustment to project assets in Oracle Fusion Cloud ERP to add installation cost to the existing fixed asset cost.

Non-Project Asset Adjustments to Fixed Assets

Asset cost or unit changes in Oracle Utilities Work and Asset Cloud Service for non-project assets will be integrated as Fixed Assets adjustments in Oracle Fusion Cloud ERP. The unit adjustment will be done through Fixed Assets Mass Transfers Import FBDI and cost adjustment will be done through Fixed Assets Mass Adjustments Import FBDI.

Asset Retirements from Oracle Utilities Work and Asset Cloud Service to Fixed Assets

Asset Retirements of individually tracked assets in Oracle Utilities Work and Asset Cloud Service will be integrated as Asset Retirements in Fixed Assets through Fixed Assets Mass Retirements Import FBDI.

The 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 WACS ERPFA Assets OS Extract Process (Oracle Utilities Work and Asset Cloud Service Initiated)

- OU WACS ERPFA Assets FTP Extract Process (Oracle Utilities Work and Asset Cloud Service initiated)

- OU WACS ERPFA Asset Addition Process (Oracle Utilities Work and Asset Cloud Service Initiated)

- OU WACS ERPFA Fixed Asset Addition Process (Oracle Utilities Work and Asset Cloud Service initiated)

- OU WACS ERPFA Project Asset Addition Process (Oracle Utilities Work and Asset Cloud Service initiated)

- OU WACS ERPFA Asset Adjustment Process (Oracle Utilities Work and Asset Cloud Service initiated)

- OU WACS ERPFA Asset Retirement Process (Oracle Utilities Work and Asset Cloud Service initiated)

- OU WACS ERPFA Common Error Handler Process (Oracle Integration Cloud Initiated)
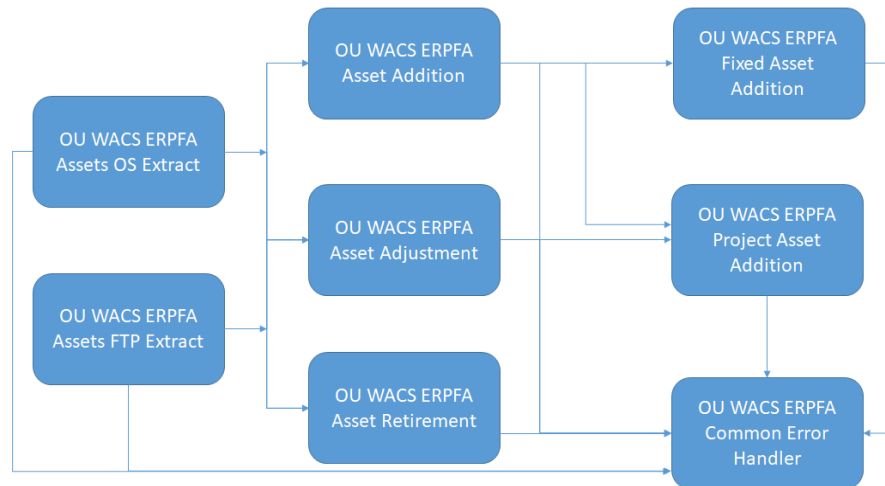
OU WACS ERPFA Assets OS Extract Process (Oracle Utilities Work and Asset Cloud Service Initiated)

This scheduled integration process polls all the Asset Extract files from Oracle Utilities Work and Asset Cloud Service Object Storage (OS) and routes the asset records to the respective addition, adjustment, and retirement integration process based on the action. This process serves as the main/master flow that initiates the Oracle Utilities Work and Asset Cloud Service integration to Oracle Assets when Oracle Utilities Work and Asset Management/Oracle Utilities Work and Asset Cloud Service is on cloud.

The following diagram shows a graphical representation of the **OU WACS ERPFA Assets OS Extract** integration process.
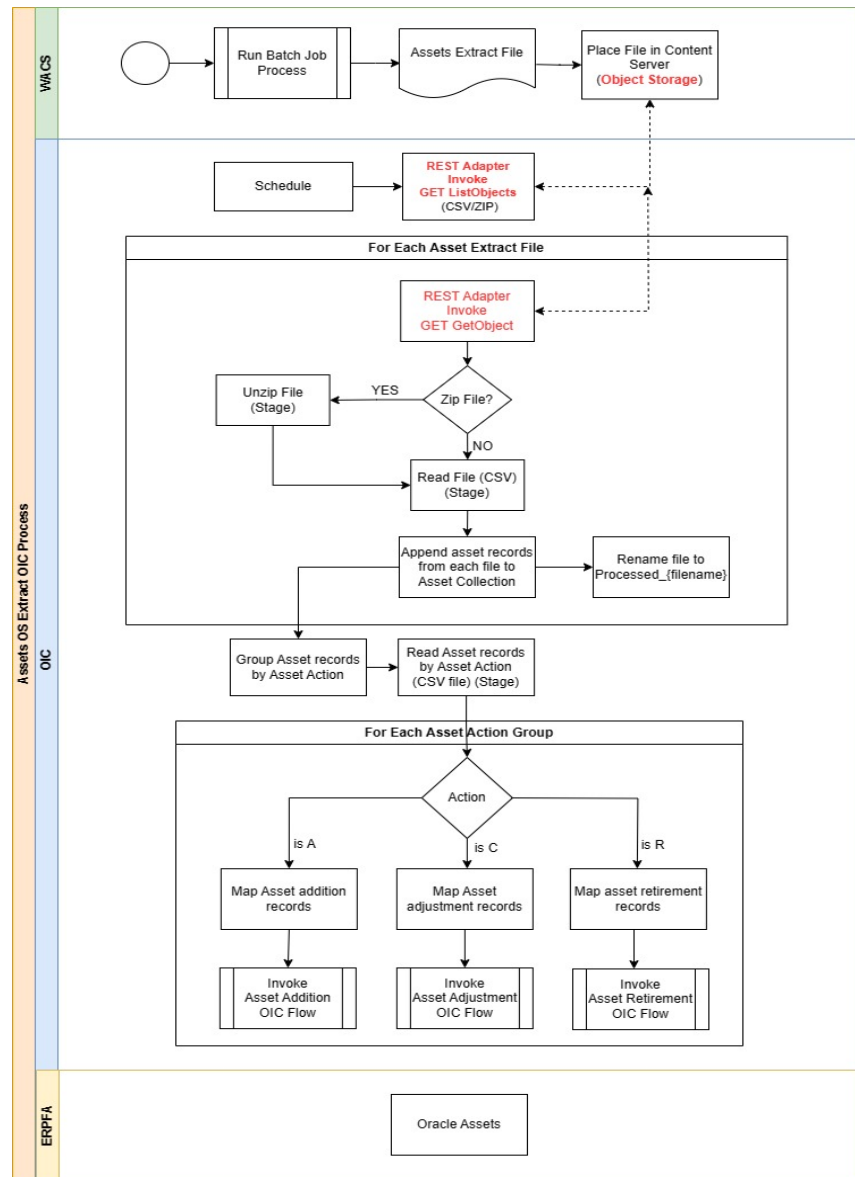
Processing Details

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

1. This process is triggered by a schedule.

    a. Define the integration schedule for this process and make sure the W1-ERPFA job schedule in Oracle Utilities Work and Asset Cloud Service is always run first, so that the file is available to be processed by the integration.

    b. A couple of the default values used in this integration are defined in the OUTL-BRT-WACS_ERPFA_CONFIGPROPS Oracle Integration Cloud lookup. Make sure to define the properties needed for this integration.

2. Invoke the Object Storage ListObjects REST API to get the list of files in a particular bucket where the Asset Extract files are stored. The bucket name is

obtained from the **os.bucketname** property value. Only files that start with the string entered in the **extract.filename.prefix** property value are listed.

> **Note**: The value **extract.filename.prefix** should match with the prefix of the fileName parameter value of the batch job W1-ERPFA in Oracle Utilities Work and Asset Cloud Service.

3. If no files are found, throw a fault and invoke the OU WACS ERPFA Common Error Handler Process (Oracle Integration Cloud Initiated) integration flow.

4. Repeat the following steps for each file to process:

   a. Invoke the **Object Storage: Gets Object REST API** to get the actual file to process.

   b. Check if the file is zipped. If yes, unzip the file and extract the CSV file.

   c. Read the CSV file and collect all file level records.

   d. Once all records are added to the collection, invoke the **RenameObject** REST API Object Storage to rename the file.

   - If any file processing errors out, then rename the file that was just processed in Object Storage by adding the prefix "Error" to the filename. The prefix can be configured at "extract.prefixtag.filenotuploaded" property in the **OUTL-BRT-WACS_ERPFA_CONFIGPROPS** lookup.

   - Else, rename the file by adding the prefix "Sent" or "Uploaded" to the filename. The prefix can be configured at "extract.prefixtag.fileuploaded" property in the OUTL-BRT-WACS_ERPFA_CONFIGPROPS lookup.

5. Group all asset records by **Asset Action**.

6. For each **Asset Action** group, repeat the following process:

   - If the Asset Action group is A, invoke the OU WACS ERPFA Asset Addition Process (Oracle Utilities Work and Asset Cloud Service Initiated) integration flow and pass addition records.

   - If the Asset Action group is C, invoke the OU WACS ERPFA Asset Adjustment Process (Oracle Utilities Work and Asset Cloud Service initiated) integration flow and pass adjustment records.

   - If the Asset Action group is R, invoke the OU WACS ERPFA Asset Retirement Process (Oracle Utilities Work and Asset Cloud Service initiated) integration flow and pass retirement records.

7. Each scope of the integration flow has fault handler to capture the errors if any and appends the error data to error record collection.

8. If the error record collection has any data, invoke the OU WACS ERPFA Common Error Handler Process (Oracle Integration Cloud Initiated) integration flow to send an optional email notification.

Refer to the Error Handling section in Configuring Lookups, Error Handling, and Email Notifications for information on error scenarios and retry options.

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 ERPFA Assets OS Extract
Integration Package Name	outl.ba.wacs_erpfa.01_23_2000
REST Adapter	Oracle Utilities REST WACS Object Storage for WACS-ERPFA connection to retrieve asset extract file from WACS Object Storage for WACS-ERPFA
REST Adapter	OU REST Trigger for WACS-ERPFA connection invoke the following integration flows: • OU WACS ERPFA Asset Addition integration endpoint • OU WACS ERPFA Asset Adjustment integration endpoint • OU WACS ERPFA Asset Retirement integration endpoint

OU WACS ERPFA Assets FTP Extract Process (Oracle Utilities Work and Asset Cloud Service initiated)

This scheduled integration process polls all the Asset Extract files from the Oracle Utilities Work and Asset Cloud Service FTP server and routes the asset records to the respective addition, adjustment, and retirement integration process based on the action. This process serves as the main/master flow that initiates the integration.

The following diagram shows a graphical representation of the OU WACS ERPFA Assets FTP Extract integration process.
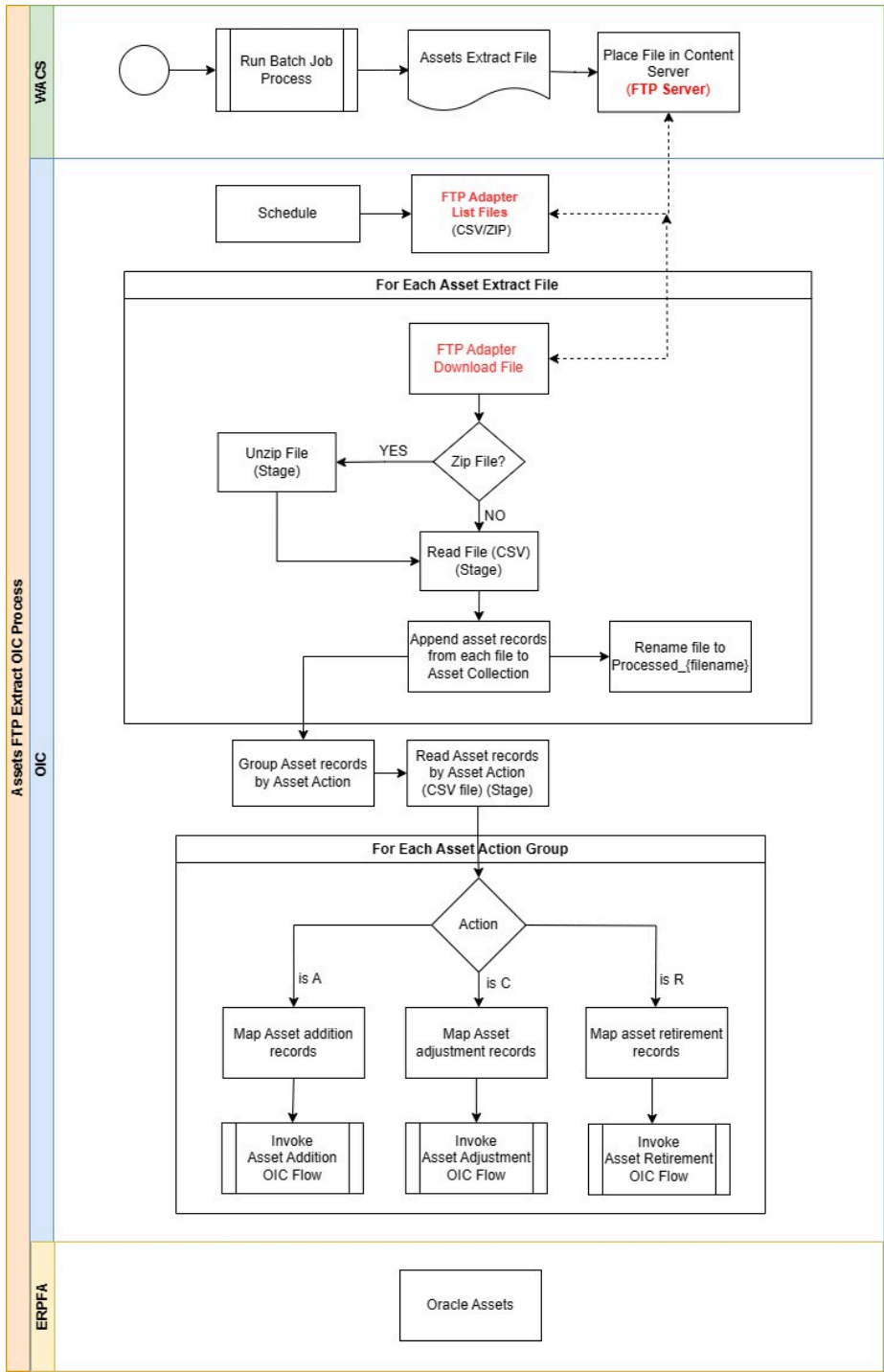
Processing Details

The integration process is a scheduled orchestrator deployed on Oracle Integration Cloud and performs the following activities:

1. This process is triggered by a schedule.

    a. Define the integration schedule for this process and make sure the **W1-ERPFA** job schedule in Oracle Utilities Work and Asset Cloud Service is always run first, so that the file is available to be processed by the integration.

    b. A couple of the default values used in this integration are defined in the **OUTL-BRT-WACS_ERPFA_CONFIGPROPS** Oracle Integration Cloud lookup. Make sure to define the properties needed for this integration.

2. It invokes the List Files operation to get the list of files from FTP server where the Asset Extract files are stored. The FTP location is obtained from the **extract.ftp.input.directory** property value. Only files that start with the string entered in the property value **extract.filename.prefix** are selected.

    Note: The value **extract.filename.prefix** should match the beginning of the parameter filename in the W1-ERPFA job in Oracle Utilities Work and Asset Cloud Service.

3. If no files are found, throw a fault, and invoke the OU WACS ERPFA Common Error Handler Process (Oracle Integration Cloud Initiated) integration flow.

4. Repeat the following steps for each file to process:

    a. Download the asset extract file.

    b. Check if the file is zipped. If yes, unzip the file and extract the CSV file.

    c. Read the CSV file and and collect all file level records.

    d. Once all records are added to the collection, invoke the **RenameObject** REST API Object Storage to rename the file.

       • If any file processing errors out, then rename the file that was just processed in Object Storage by adding the prefix "Error" to the filename. The prefix can be configured at "extract.prefixtag.filenotuploaded" property in the **OUTL-BRT-WACS_ERPFA_CONFIGPROPS** lookup.

       • Else, rename the file by adding the prefix "Sent" or "Uploaded" to the filename. The prefix can be configured at "extract.prefixtag.fileuploaded" property in the OUTL-BRT-WACS_ERPFA_CONFIGPROPS lookup.

5. Group all asset records by **Asset Action**.

6. For each **Asset Action** group, repeat the following process:

    a. Invoke the respective child integration process based on the asset action group.

       • If the asset action group is A, invoke the OU WACS ERPFA Asset Addition integration flow and pass addition records.

       • If the asset action group is C, invoke the OU WACS ERPFA Asset Adjustment integration flow and pass adjustment records.

       • If the asset action group is R, invoke the OU WACS ERPFA Asset Retirement integration flow and pass retirement records.

7. Each scope of the integration flow has fault handler to capture the errors if any and appends the error data to error record collection.

8. If the error record collection has any data, invoke the OU WACS ERPFA Common Error Handler Process (Oracle Integration Cloud Initiated) integration flow to send an optional email notification.

Refer to the Error Handling section in Configuring Lookups, Error Handling, and Email Notifications for information on error scenarios and retry options.

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 ERPFA Assets FTP Extract
Integration Package Name	outl.ba.wacs_erpfa.01_23_2000
FTP Adapter	OU FTP WACS FTP for WACS-ERPFA connection to retrieve asset extract file from WACS FTP server for WACS-ERPFA
REST Adapter	OU REST Trigger for WACS-ERPFA connection invokes the following integration flows: • OU WACS ERPFA Asset Addition integration endpoint • OU WACS ERPFA Asset Adjustment integration endpoint • OU WACS ERPFA Asset Retirement integration endpoint

OU WACS ERPFA Asset Addition Process (Oracle Utilities Work and Asset Cloud Service Initiated)

The integration process gets the asset addition records from the OU WACS ERPFA Assets OS Extract Process (Oracle Utilities Work and Asset Cloud Service Initiated) or OU WACS ERPFA Assets FTP Extract Process (Oracle Utilities Work and Asset Cloud Service initiated) integration flow.

The following diagram shows a graphical representation of the OU WACS ERPFA Asset Addition integration process.
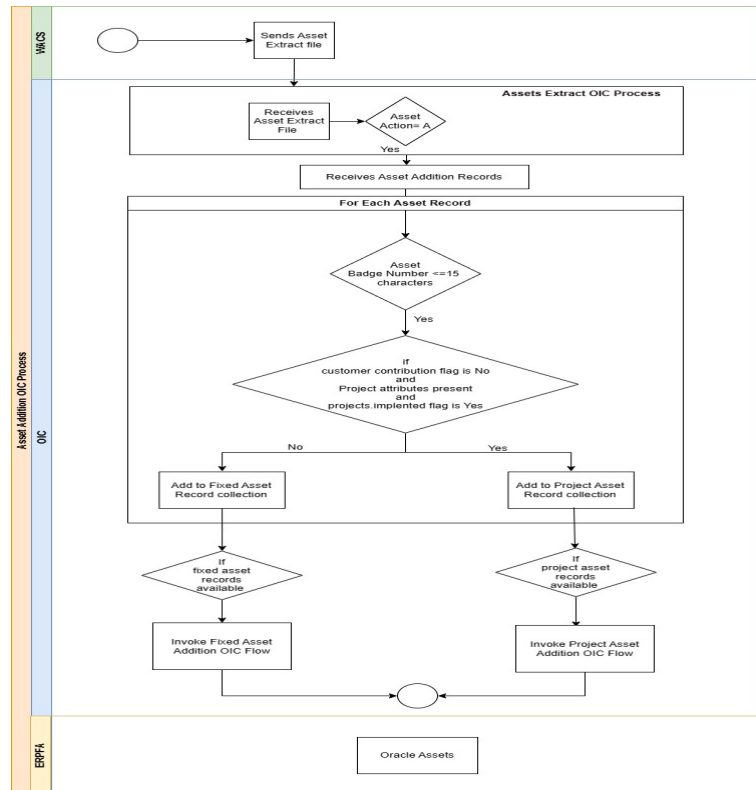
Processing Details

The integration process is an application driven orchestrator deployed on Oracle Integration Cloud. It performs the following activities:

1. The process is triggered when the Asset Extract master flow is triggered and if there are any addition records.

2. A group of Asset addition records will be passed to the OU WACS ERPFA Asset Addition Oracle Integration Cloud flow.

3. Repeat the step for each asset addition record.

   a. If the badge number is not more than 15 characters length, then check:

      a. If the Customer Contributed Flag is **No** and Parent ERP Reference Number or ERP Reference Number is present and the projects.implemented flag defined in the **OUTL-BRT-WACS_ERPFA_CONFIGPROPS** lookup is **Yes**, append the asset record to the Project Asset record collection.

      b. Else, append asset records to the Fixed Asset record collection.

   b. Else, append asset record to the error collection.

4. If the project asset record count > 0, invoke the OU WACS ERPFA Asset Addition Process (Oracle Utilities Work and Asset Cloud Service Initiated) flow.

5. If the fixed asset record count > 0, invoke the OU WACS ERPFA Fixed Asset Addition Process (Oracle Utilities Work and Asset Cloud Service initiated) flow.

6. Each scope of the integration flow has fault handler to capture the errors if any and appends the error data to error record collection.

7. If the error record count is more than zero, invoke the OU WACS ERPFA Common Error Handler Process (Oracle Integration Cloud Initiated) integration to send an optional email notification.

Refer to Configuring Lookups, Error Handling, and Email Notifications for error handling information on error scenarios and retry options.

Technical Details

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

Artifacts	Value
Integration Process Name	OU WACS ERPFA Asset Addition
Integration Package Name	outl.ba.wacs_erpfa.01_23_2000
REST Adapter (trigger)	OU REST Trigger for WACS-ERPFA connection to initiate the flow
REST Adapter	OU REST Trigger for WACS-ERPFA connection to invoke the following integrations: • OU WACS ERPFA Fixed Asset Addition integration endpoint • OU WACS ERPFA Project Asset Addition integration endpoint

OU WACS ERPFA Fixed Asset Addition Process (Oracle Utilities Work and Asset Cloud Service initiated)

The integration process gets only the fixed asset addition records from the OU WACS ERPFA Asset Addition Process (Oracle Utilities Work and Asset Cloud Service Initiated) integration flow.

The following diagram shows a graphical representation of the OU WACS ERPFA Fixed Asset Addition integration process.
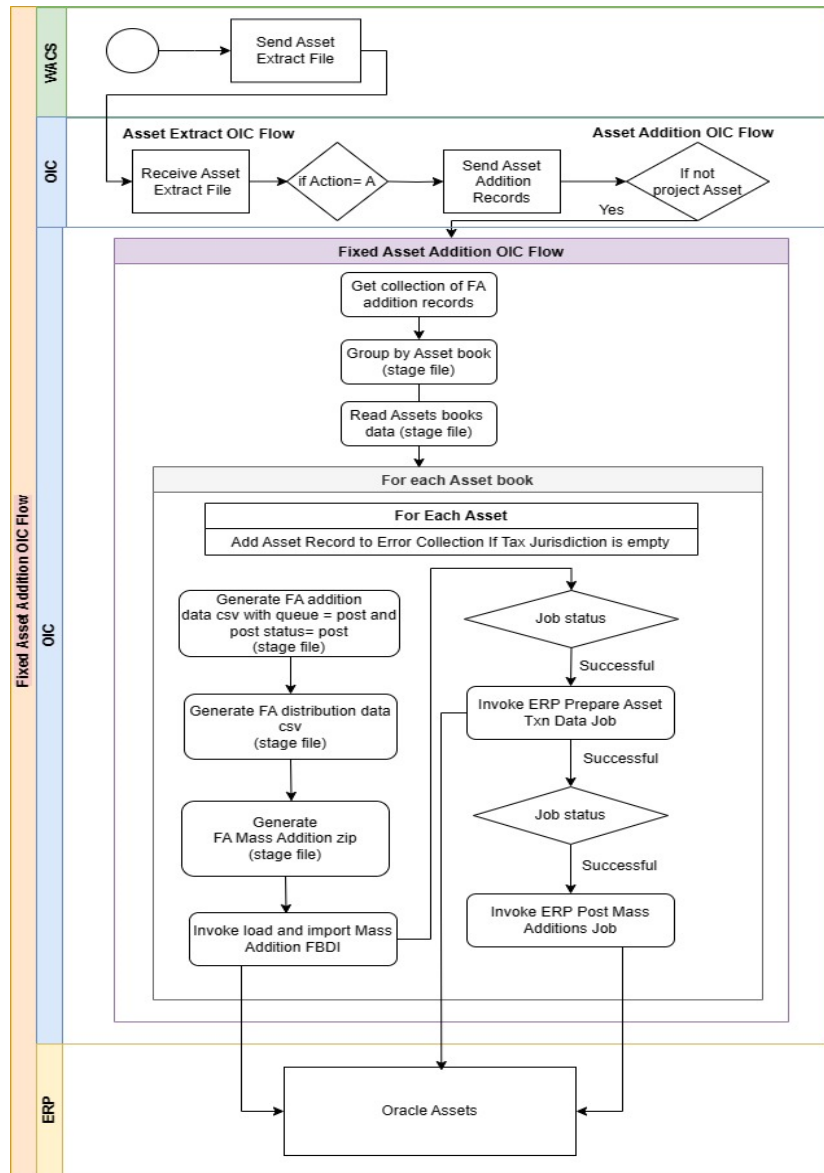
Processing Details

This integration is an application driven orchestrator deployed on Oracle Integration Cloud. It performs the following steps:

The process is invoked when asset extract file sent by Oracle Utilities Work and Asset Cloud Service has any fixed asset addition records:

1. The process receives a collection of fixed asset addition records.

2. Group the asset records based on the asset book (owning access group).

3. Repeat the process for each asset book:

    a. Repeat the process for each asset:

        a. If **Asset Tax Jurisdiction** is null, add the asset record to error record collection.

    b. Generate the **FA Mass Additions** CSV file.

    c. Generate the **FA Mass Addition Distributions** CSV file.

    d. Generate the **FA Mass Addition** ZIP file.

    e. Invoke Post Mass Additions FBDI with post status NEW and queue name NEW. This executes the following schedule processes in Oracle Fusion Cloud ERP:

        a. Load the interface file for import.

        b. Load the file to interface.

        c. Transfer the file.

        d. Prepare the Assets Transaction Data.

    f. Wait for the Load Interface file to import job execution and retrieve the status

    g. If the job status is success, invoke the Prepare Assets Transaction Data scheduled process with ERP cloud adapter query service option.

    h. Else, display an error with the error response received from FBDI call with the list of jobs executed with the respective job status.

    i. Wait for the Prepare Assets Transaction Data job execution and retrieve the status.

    j. If the job status is success, invoke the PostMassAdditions scheduled process with ERP SOAP Service.

    k. Else, display an error with the error response received from FBDI call with the list of jobs executed with the respective job status.

    l. If the PostMassAdditions job status is successful, send email notification with the Job Id. Else, throw FBDI fault.

4. Each scope of the integration flow has fault handler to capture the errors if any and appends the error data to error record collection.

5. Check for the error record count. If there are any error records, invoke the OU WACS ERPFA Common Error Handler Process (Oracle Integration Cloud Initiated) integration flow to send an optional email notification.

Refer to Configuring Lookups, Error Handling, and Email Notifications for error handling information on error scenarios and retry options.

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 ERPFA Fixed Asset Addition
Integration Package Name	outl.ba.wacs_erpfa.01_23_2000
REST Adapter	OU REST Trigger for WACS-ERPFA connection to initiate the integration flow

Artifacts	Value
ERP Adapter	OU ERP FA Cloud for WACS-ERPFA connection to invoke Post Mass Additions **FBDI**
ERP REST Adapter	OU REST ERP FA for WACS-ERPFA connection to invoke ERP REST API to retrieve the job status
SOAP Adapter	OU SOAP ERP FA for WACS-ERPFA to invoke post mass addition via ERP integration soap service

OU WACS ERPFA Project Asset Addition Process (Oracle Utilities Work and Asset Cloud Service initiated)

This integration process receives additional records of project assets from the OU WACS ERPFA Asset Addition Process (Oracle Utilities Work and Asset Cloud Service Initiated) Oracle Integration Cloud flow.

The following diagram shows a graphical representation of the OU WACS ERPFA Project Asset Addition integration process.
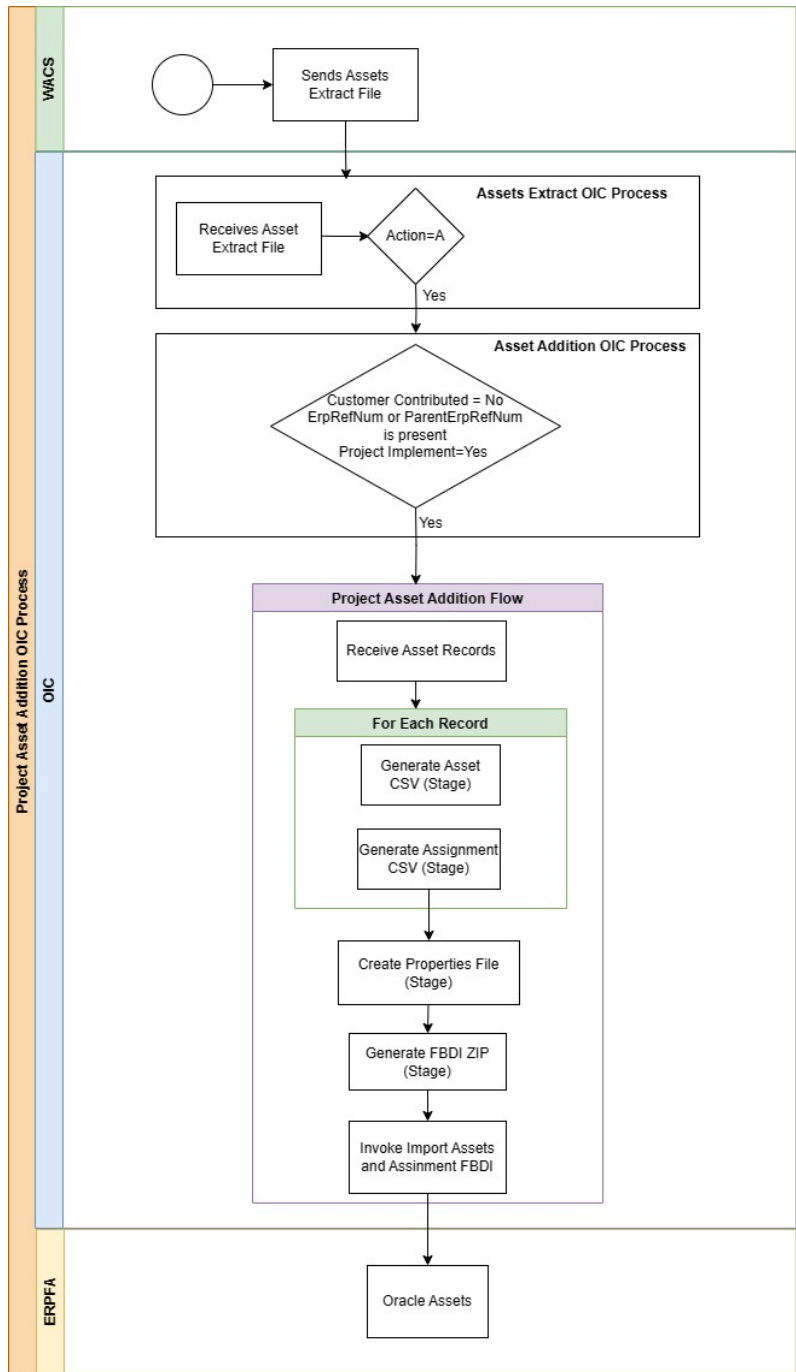
Processing Details

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

The process is invoked when the asset extract file sent from Oracle Utilities Work and Asset Cloud Service has any addition records of project assets.

1. The process receives a collection of project asset addition records.

2. Repeat the process for each project asset addition record.

   a. Generate the asset CSV file.

   b. Generate the asset assignment CSV file.

3. Generate the import assets and assignments FBDI properties file.

4. Generate the import assets and assignments FBDI ZIP file.

5. Invoke the ERP **Import Assets and Assignments Process** FBDI file.

6. Send an email with the executed job details.

7. Each scope of the integration flow has fault handler to capture the errors if any and appends the error data to error record collection.

8. If there are any errors and the error record count is greater than zero, invoke the OU WACS ERPFA Common Error Handler Process (Oracle Integration Cloud Initiated) flow to send an optional email notification with the error details.

Refer to Configuring Lookups, Error Handling, and Email Notifications for error handling information on error scenarios and retry options.

Technical Details

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

Artifacts	Value
Integration Process Name	OU WACS ERPFA Project Asset Addition
Integration Package Name	outl.ba.wacs_erpfa.01_23_2000
ERP Adapter	OU ERP FA Cloud for WACS-ERPFA connection to invoke Import Asset and Assignment FBDI
REST Adapter	OU REST Trigger for WACS-ERPFA connection to initiate the flow

OU WACS ERPFA Asset Adjustment Process (Oracle Utilities Work and Asset Cloud Service initiated)

This application driven integration process gets a collection of asset adjustment records from the OU WACS ERPFA Assets OS Extract Process (Oracle Utilities Work and Asset Cloud Service Initiated) or OU WACS ERPFA Assets FTP Extract Process (Oracle Utilities Work and Asset Cloud Service initiated) flow.

The following diagram shows a graphical representation of the OU WACS ERPFA Asset Adjustment integration process.
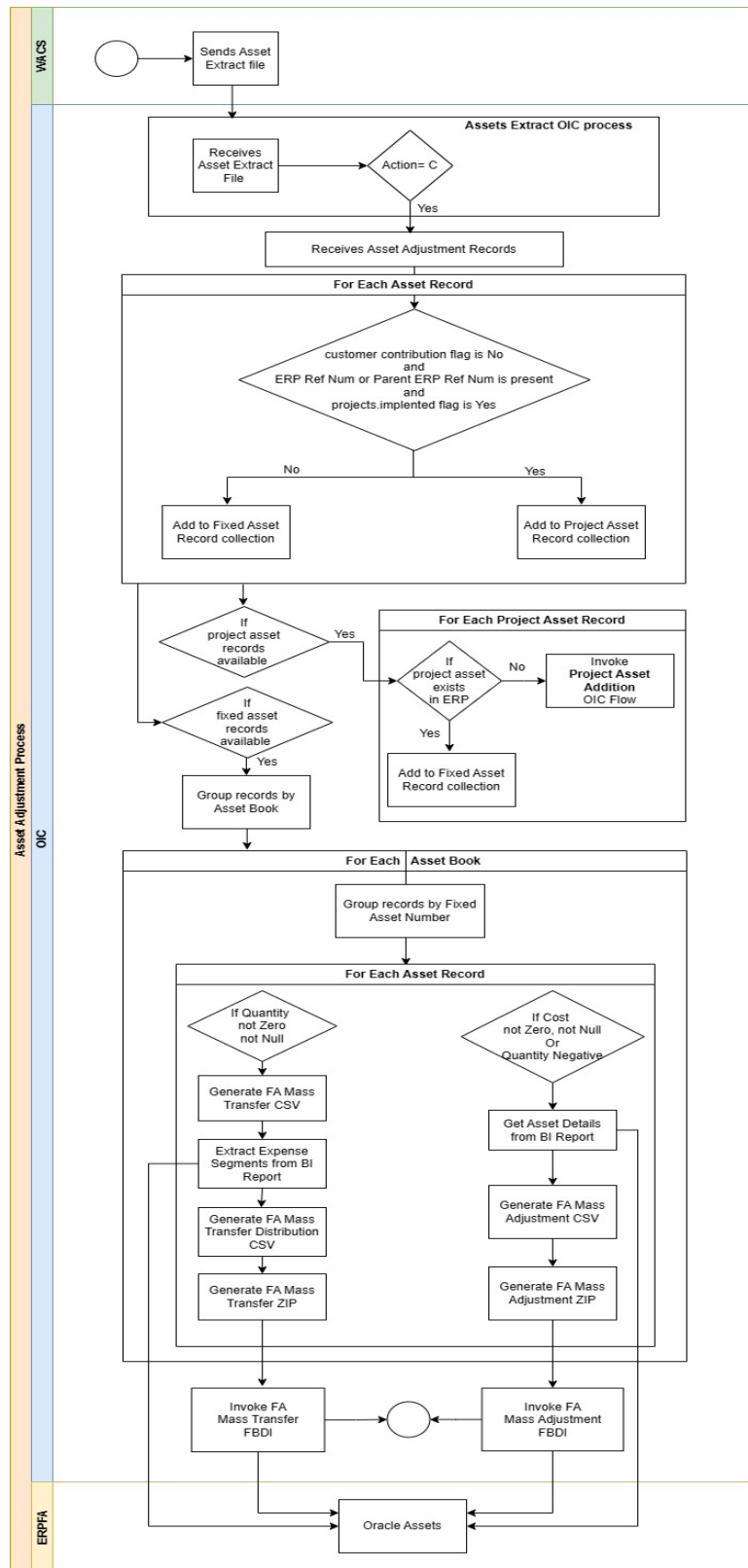
Processing Details

This integration process is an application driven orchestrator deployed on Oracle Integration Cloud. It is initiated when the asset extract file sent by Oracle Utilities Work and Asset Cloud Service has asset adjustment records.

The process is executed as follows:

1. The process receives a collection of asset adjustment records.

2. Repeat the process for each asset adjustment record.

   a. If the asset badge number is not more than 15 characters length, then check:

      a. If the Customer Contributed Flag is **No** and Parent ERP Reference Number or ERP Reference Number is present and projects.implemented flag defined in the **OUTL-BRT-WACS_ERPFA_CONFIGPROPS** lookup is **Yes**, append asset record to the Project Asset record collection.

      b. Else, append asset records to the Fixed Asset record collection.

   b. Else, append the asset record to the Fixed Asset record set.

3. If project asset record set has any data, repeat the process for each project asset record:

   a. Check if the project asset exists in ERP. If it exists, add this record to fixed asset record set.

   b. Else, add this to asset not available in ERP record set.

4. If the asset not available record set has any data, invoke the OU WACS ERPFA Project Asset Addition Process (Oracle Utilities Work and Asset Cloud Service initiated) integration flow to create the project asset in ERP.

5. If the fixed asset record set has any data:

   a. Group the asset records by asset book/owning access group.

   b. Repeat the process for each asset book.

      a. Group the asset data by fixed asset number and repeat the process for each asset record in this group.

         • If the quantity is not null and not zero, create the FA mass transfer CSV file.

         • If cost is not null and not zero:

            • Assign a **cost** flag to indicate that asset records have cost adjustment.

            • Get the current ERP cost of the asset from BI Report.

            • Generate the **FA mass adjustment** CSV file with calculated cost.

      b. For each asset record in the asset book group, repeat the following process:

         • If the quantity is not null and not zero:

            • Get the fixed asset details from ERP.

               • Extract the expense account value from BI Report.

               • Using the expense account ID, retrieve the expense account segments from ERP.

- • Generate the ERP FA mass transfer distribution CSV file.

- • Assign a **unit** flag to indicate the asset records have unit adjustments.

c. If Asset record has cost and quantity as zero, collect the asset records and send an email notification with asset ID or fixed asset number.

d. If the cost flag is enabled:

- • Generate the **FA mass adjustment properties** file.

- • Generate the **FA mass adjustment** ZIP file with **FA mass adjustment properties** file and **FA mass adjustment** CSV file.

- • Invoke the **ERP FA mass adjustments import FBDI.**

- • Send the email notification with job details.

e. If the unit flag is enabled:

- • Generate the **FA mass transfer properties** file.

- • Generate the **FA mass transfer** ZIP file with FA mass transfer properties file, FA mass transfer CSV file, and FA mass transfer distribution CSV file.

- • Invoke the **ERP FA mass transfer import FBDI**.

- • Send the email notification with Job details.

6. Each scope of the integration flow has fault handler to capture the errors if any and appends the error data to error record collection.

7. If the error record collection has any data, invoke the OU WACS ERPFA Common Error Handler Process (Oracle Integration Cloud Initiated) flow to send an optional email notification.

Refer to Configuring Lookups, Error Handling, and Email Notifications for error handling information on error scenarios and retry options.

Technical Details

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

Artifacts	Value
Integration Process Name	OU WACS ERPFA Asset Adjustment
Integration Package Name	outl.ba.wacs_erpfa.01_23_2000
REST Adapter (trigger)	OU REST Trigger for WACS-ERPFA connection to initiate the flow
ERP Adapter	OU ERP FA Cloud for WACS-ERPFA connection to invokes: • Fixed Assets Mass Adjustment Import FBDI • Fixed Assets Mass Transfer Import FBDI
SOAP Adapter	OU BI ERP FA for WACS-ERPFA connection to invoke ERP BI report soap service

OU WACS ERPFA Asset Retirement Process (Oracle Utilities Work and Asset Cloud Service initiated)

This application driven integration process gets a collection of asset retirement records from master extract flow.

The following diagram shows a graphical representation of the OU WACS ERPFA Asset Retirement integration process.
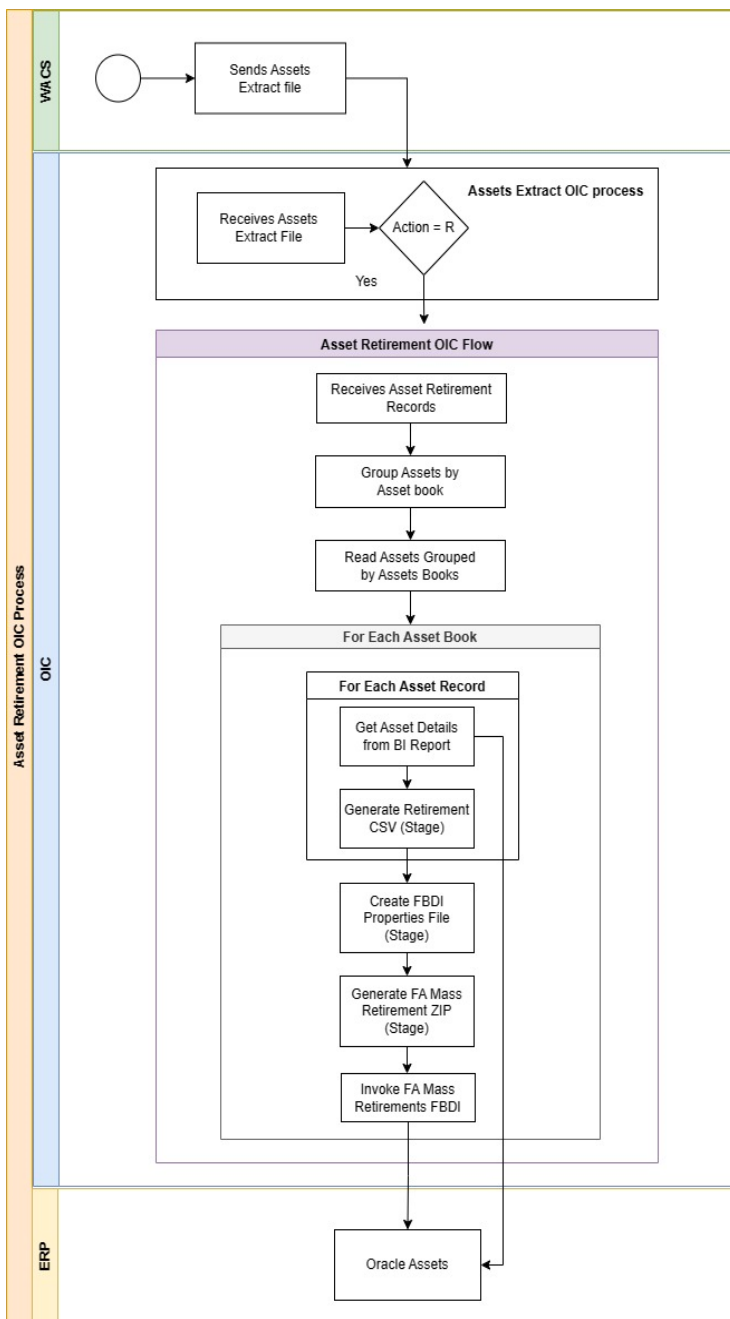
Processing Details

This is an application driven orchestration process deployed on Oracle Integration Cloud. The process is initiated when the asset extract file from Oracle Utilities Work and Asset Cloud Service has any asset retirement record.

The flow is executed as follows:

1. The process gets a collection of asset retirement records.

2. Group the asset data by asset book.

3. For each asset book group, repeat the following process:

    a. For each asset record of this asset book group:

        a. If the asset badge number is not more than 15 characters:

            a. Invoke BI report to get the current cost of the asset from ERP.

            b. Generate the retirement CSV file.

        c. Else, display fault and add asset record it to the error collection. Skip this asset record.

    b. If there are no errors:

        a. Generate the **FA mass retirement properties** file.

        b. Generate **mass retirement** ZIP file with mass retirement CSV and properties files.

        c. Invoke ERP **FA Mass Retirement FBDI**.

        d. Send the email notification with job details.

4. Each scope of the integration flow has fault handler to capture the errors if any and appends the error data to error record collection.

5. If the error record collection has any data, invoke the OU WACS ERPFA Common Error Handler Process (Oracle Integration Cloud Initiated) flow to send an optional email notification.

Refer to Configuring Lookups, Error Handling, and Email Notifications for error handling information on error scenarios and retry options.

Technical Details
The following table describes the integration process and the respective artifacts used in this integration process.

Artifacts	Value
Integration Process Name	OU WACS ERPFA Asset Retirement
Integration Package Name	outl.ba.wacs_erpfa.01_23_2000
ERP Adapter	OU ERP FA Cloud for WACS-ERPFA connection to invoke Fixed Assets Mass Retirements Import FBDI
ERP REST Adapter	OU REST ERP FA for WACS-ERPFA connection to invoke ERP REST API to retrieve the Asset cost
REST Adapter	OU REST Trigger for WACS-ERPFA connection to initiate the flow
SOAP Adapter	OU BI ERP FA for WACS-ERPFA connection to invoke ERP BI report SOAP service

OU WACS ERPFA Common Error Handler Process (Oracle Integration Cloud Initiated)

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 ERPFA Common Error Handler integration process.
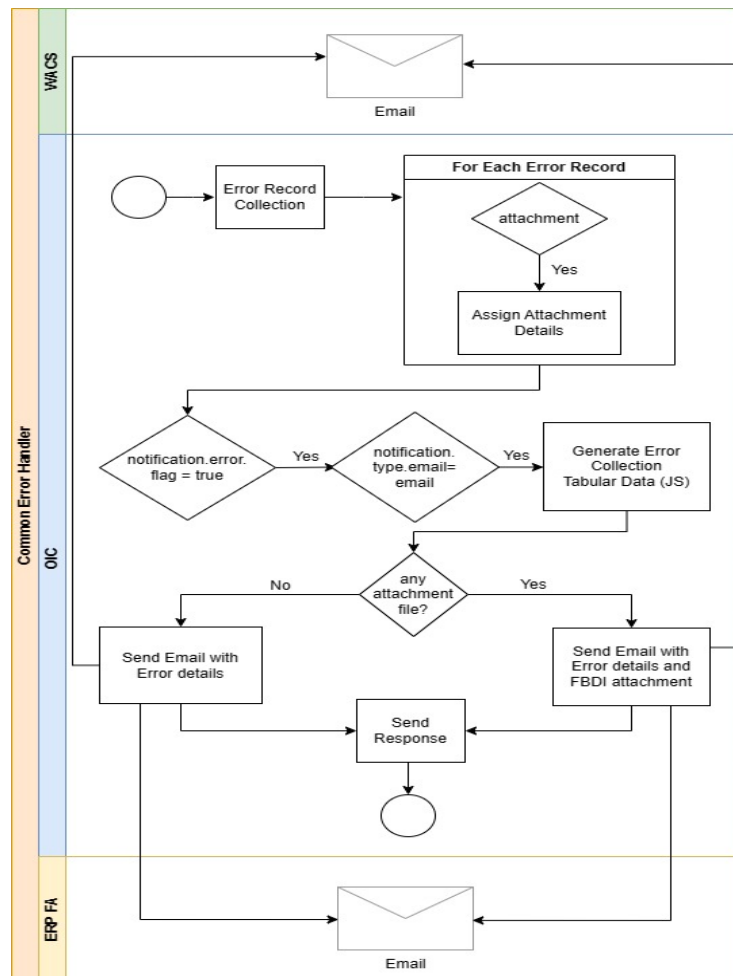
Processing Details

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. For each error record, repeat the following steps:

   a. If the error record has any attachment, enable attachment flag.

3. If the notification.error.flag in the **OUTL-BRT-WACS_ERPFA_CONFIGPROPS** Oracle Integration Cloud lookup is set to 'true'.

    a. If the notification.type.email property in the **OUTL-BRT-WACS_ERPFA_CONFIGPROPS** Oracle Integration Cloud lookup is set to 'email':

        a. Invoke the 'GenerateTableData' library function to generate the error data in a tabular format.

        b. If the attachment count is zero, send an email notification with the error data.

        c. Else, send an email notification with the attachment.

Refer to Configuring Lookups, Error Handling, and Email Notifications for error handling information on error scenarios and retry options.

Technical Details

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

Artifacts	Value
Integration Process Name	OU WACS ERPFA Common Error Handler
Integration Package Name	outl.ba.wacs_erpfa.01_23_2000
REST Adapter	OU REST Trigger for WACS-ERPFA connection to initiate the flow

Chapter 3

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
- Synchronization of Projects, Subprojects, and Tasks Between WACS and Oracle Assets
- Scheduling the Batch Process

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
- Oracle Assets Integration Configuration

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**.

- Work Management Master Configuration

Work Management Master Configuration

The Work Management Master Configuration is used by assets integration.

To create Work Management Master Configuration:

1. Navigate to **Admin Menu > M > Master Configuration**.
2. Click '+' against the **Work Management Master Configuration** value in the master configuration table.
3. In the **Master Configuration Details** section, select the **Work Management Master Configuration (W1-WorkManagementMasterConfig)** business object.
4. Configure the values in the **Work Order Parameters** section.
5. Configure the values in the **Work Request Parameters** section.
6. Configure the following values in the **Construction Parameters** section.

    - Set **FIXED ASSET EXTRACT BATCH CODE** to **ERP Fixed Asset Extract (W1-ERPFA)**.
    - Set **ORACLE ASSETS INTEGRATION** to "Yes".

Oracle Assets Integration Configuration

This section describes the Oracle Assets configuration details for the integration.

- Property Unit
- Compatible Unit Set
- Compatible Unit
- Cost Center

Property Unit

Property Unit groups are capital and fixed assets that have similar depreciation characteristics. This value will be mapped to the **Asset Category** in Oracle Fusion ERP.

Navigate to **Admin Menu > P > Property Unit** to configure the property unit.

Compatible Unit Set

The Compatible Unit Set portal is used to display and maintain compatible unit sets.

To create a Compatible Unit Set:

1. Navigate to **Admin Menu > C > Compatible Unit Set**.
2. Click **Add**.
3. Enter the following details
   - Compatible Unit Set
   - Description
   - CU Class
   - CU Category
   - Equipment Group
4. Click **Save**.

Compatible Unit

Compatible Units define the materials, labor, and equipment necessary to install or remove assets in relationship to construction work. They can be referenced by other compatible units to build more complex configuration and allow users to properly group resources together.

Rolling assets, such as conductors, are not treated as individual assets in Oracle Fusion ERP and not treated as assets in Oracle Utilities Work and Asset Cloud Service. Fiscal assets, such as poles, are also not treated as individual assets in Oracle Fusion ERP whereas they are treated as individual assets in Oracle Utilities Work and Asset Cloud Service. In such cases, Compatible Unit represents the grouping of these assets on which we populate the Oracle Fusion ERP fixed asset number common to the group and stamp property unit on the asset.

To create a Compatible Unit:

1. Navigate to **Admin Menu > C > Compatible Unit**.
2. Click **Add**.

3. Select the compatible unit type and click **OK.**

4. Enter the following details:

    •   Compatible unit code

    •   Compatible unit set

    •   Description

    •   Fixed Asset Number (Populated with Oracle Fusion ERP Asset ID. This is required in case of addition and retirement of fiscal and rolling assets.)

5. Click **Save**.

Cost Center

As costs are incurred, the system tracks and accumulates them at different levels or cost centers within the organization. Cost centers are part of the accounting hierarchy.

Cost center records display financial statistics, such as budget amounts, year to date actual amounts, and committed amounts for the cost center. These amounts represent the fiscal year rather than the calendar year.

To create a cost center:

1. Navigate to **Admin Menu > C > Cost Center**.

2. Click **Add**.

3. Select the cost center business object and click **OK**.

4. Enter the following details:

    •   Cost center

    •   Description

    •   Account segment

5. In the **Financial Information** section:

    •   Allow user charge

    •   Capital account

    •   Budget amount

6. In the **Account Segments** section, provide the segment values.

    Note: Make sure the segment values are in synchronization with the Cost Clearing Account segments of Oracle Fusion ERP.

7. Click **Save**.

Synchronization of Projects, Subprojects, and Tasks Between WACS and Oracle Assets

To perform any operation on project assets in Oracle Fusion ERP, the asset must be associated with a project. When the project asset operations are performed through Oracle Utilities Work and Asset Cloud Service, the project in Oracle Utilities Work and Asset Cloud Service should be in synchronization with the corresponding Oracle Fusion

ERP project, which is synchronization between the Oracle Fusion ERP project and Oracle Utilities Work and Asset Cloud Service parent project, Oracle Fusion ERP task and Oracle Utilities Work and Asset Cloud Service project has to be maintained.

> **Note**: If Project and Task synchronization integrations are not in place, the synchronization must be maintained manually.

- Populate the ERP Project Number in the **ERP Reference Number** field in the parent project in Oracle Utilities Work and Asset Cloud Service.

- Populate the ERP Task Number in the **ERP Reference Number** field in the project in Oracle Utilities Work and Asset Cloud Service.

Refer to the Oracle Fusion ERP documentation for creating a project and a task in Oracle Assets.

Scheduling the Batch Process

Schedule the W1-ERPFA batch job to generate asset extract file. It has a couple of parameters that can be used to control which synchronization request should business objects process.

W1-ERPFA: This batch process is responsible for generating the asset extract file for ERP fixed/project assets when an asset is created/updated/removed in Oracle Utilities Work and Asset Cloud Service.

The batch job should be scheduled to run with the following job parameters:

- Batch code: W1-ERPFA

- fileIntegrationType: W1-ERPFAExtract

- fileName: ERPFA_{BC}{BN}{TN}.csv

- filePath: tmp/ (this is the relative path)

- fileFormat: CSV

Chapter 4

Configuring Oracle Assets

For Oracle Assets configuration details, refer to the *Oracle Fusion Assets Cloud Configurations for Oracle Utilities Work and Asset Cloud Service Integration to Oracle Assets 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

Importing, Configuring, and Testing Integration Connections

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

- Importing the Oracle Integration Cloud Package from Oracle Cloud Marketplace

- Verifying the Package Import

- Configuring Connections in Oracle Integration Cloud

- Setting up Certificates for Security

Importing the Oracle Integration Cloud Package from Oracle Cloud Marketplace

All integration points are shipped as part of single package (.par) 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 package 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 package 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 package file that is visible on the **Packages** page in Oracle Integration Cloud.

10. On the **Integrations** page, the individual integrations of the imported package 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 package and lookups, and perform the cleanup before proceeding with the new package import. The cleanup includes deactivating the existing flows in this package and deleting the package, connections, lookups and libraries used in the integration.

To import a package in Oracle Integration Cloud:

1. Login to Oracle Integration Cloud.

2. Navigate to **Integrations** > **Designer** > **Packages**.

3. Click **Import**.

4. Select the .par file downloaded from Oracle Cloud Marketplace.

5. Verify if the package is imported is successfully.

Verifying the Package Import

To verify the package import was successful:

1. Verify if the following integrations are imported successfully.

   • OU WACS ERPFA Assets OS Extract

   • OU WACS ERPFA Assets FTP Extract

   • OU WACS ERPFA Asset Addition

- OU WACS ERPFA Fixed Asset Addition
- OU WACS ERPFA Project Asset Addition
- OU WACS ERPFA Asset Adjustment
- OU WACS ERPFA Asset Retirement
- OU WACS ERPFA Common Error Handler

2. Verify if the following connections are in place.
   - OU FTP WACS FTP for WACS-ERPFA
   - OU REST ERP FA for WACS-ERPFA
   - OU ERP FA Cloud for WACS-ERPFA
   - OU REST Trigger for WACS-ERPFA
   - OU REST WACS OS for WACS-ERPFA
   - OU SOAP ERP FA for WACS-ERPFA
   - OU BI ERP FA for WACS-ERPFA

3. Make sure that the following lookups are imported successfully.
   - OUTL-BRT-WACS_ERPFA_OWNINGACCESSGROUP
   - OUTL-BRT-WACS_ERPFA_CONFIGPROPS
   - OUTL-BRT-WACS_ERPFA_PROPERTYUNIT
   - OUTL-BRT-WACS_ERPFA_EMAIL_ID
   - OUTL-BRT-WACS_ERPFA_TAXJURISDICTION

Configuring Connections in Oracle Integration Cloud

After the packages are imported and verified, the respective connections have to be configured.

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

- OU FTP WACS FTP for WACS-ERPFA
- OU REST ERP FA for WACS-ERPFA
- OU ERP FA Cloud for WACS-ERPFA
- OU REST Trigger for WACS-ERPFA
- OU REST WACS OS for WACS-ERPFA
- OU SOAP ERP FA for WACS-ERPFA
- OU BI ERP FA for WACS-ERPFA

OU FTP WACS FTP for WACS-ERPFA

This connection is used to connect to the Oracle Utilities Work and Asset Cloud Service FTP server to poll the asset extract files using the FTP adapter.

To configure OU FTP WACS FTP for WACS-ERPFA connection:

1. Login to Oracle Integration Cloud and navigate to the connection.

2. In the **Connection Properties** section, set the values for **FTP Server Host Address (xxxx.com)**, **FTP Server Port**, and **SFTP Connection**.

3. In the **Security** section:

   a. Select the "FTP Server Access Policy" as the **Security Policy**.

   b. Enter the Oracle Utilities Work and Asset Cloud Service FTP server **Username** and **Password**.

4. Click **Test** at the upper-right corner.

5. After the connection is tested successfully, click **Save**.

Important: Make sure the FTP Server is setup and configured in Oracle Utilities Work and Asset Cloud Service.

OU REST ERP FA for WACS-ERPFA

This connection is used to invoke ERPFA REST APIs to get the Asset Details using REST adapter.

To configure OU REST ERP FA for WACS-ERPFA 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 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 ERP FA Cloud for WACS-ERPFA

This connection is used to invoke asset FBDIs to create/update/retire assets in ERPFA using Oracle ERP Cloud adapter.

To configure the OU ERP FA Cloud for WACS-ERPFA connection:

1. Login to Oracle Integration Cloud and navigate to the connection.

2. In the **Connection Properties** section, enter the ERP Cloud Host URL.

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

   Note: The Oracle ERP Cloud host name can easily be derived from the Oracle 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 Assets.

4. Click **Test** at the upper-right corner.

5. After the connection is tested successfully, click **Save**.

OU REST Trigger for WACS-ERPFA

This connection is used to receive and send asset records 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-ERPFA 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**.

OU REST WACS OS for WACS-ERPFA

This connection is used to connect to Oracle Utilities Work and Asset Cloud Service object storage to poll the asset extract files using REST adapter.

To configure the OU REST WACS OS for WACS-ERPFA connection:

1. Login to Oracle Integration Cloud and navigate to the connection.

2. In the **Connection Properties** section:

   a. Enter the object storage API endpoint in the **Connection URL** field.

   The Connection URL follows this format: https://objectstorage.{region}.oraclecloud.com

   Refer to the Oracle Cloud Infrastructure documentation/API Reference and Endpoints to see the Object Storage Service API and endpoints at: https://docs.oracle.com/en-us/iaas/api/

3. In the **Security** section:

   a. Select the **OCI Signature Version 1** security policy.

   b. Provide the following Object Storage information:

      a. Tenancy OCID

      b. User OCID

      c. Upload the private key

      d. Fingerprint (obtained from object storage after register the public key for the appropriate user)

   For more information, refer to the *Object Storage Setup Guide 20C* at: https://docs.oracle.com/cd/F35460_01/index.htm

4. Click **Test** at the upper-right corner.

5. After the connection is tested successfully, click **Save**.

OU SOAP ERP FA for WACS-ERPFA

This connection is used to invoke ERPFA SOAP APIs that invoke BI Report service in ERP.

To configure OU SOAP ERP FA for WACS-ERPFA connection:

1. Login to Oracle Integration Cloud and navigate to the connection.

2. In the **Connection Properties** section, enter the ErpIntegrationService WSDL URL.

3. In the **Security** section:

    a. Select **Basic Authentication Security Policy**.

    b. Enter the ERP **Username** and **Password** to connect to the Oracle ErpIntegrationService.

4. Click **Test** at the upper-right corner.

5. After the connection is tested successfully, click **Save**.

OU BI ERP FA for WACS-ERPFA

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

To configure OU BI ERP FA for WACS-ERPFA 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**.

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

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_ERPFA_OWNINGACCESSGROUP	Used to map Owning access group from WACS with Asset Book type code and Asset book name in ERPFA.
OUTL-BRT-WACS_ERPFA_CONFIGPROPS	Used to configure the integration properties. Maps **PropertyName** column to the respective **Value** column. **Note**: Do not change the values under the **PropertyName** column.
OUTL-BRT-WACS_ERPFA_PROPERTYUNIT	Used to map the **WACS Property Unit** value to **ERPFA Asset Category** and **Asset Category** segments. Asset Category segments (1-7) are used for fixed asset and asset category column is used for project asset.
OUTL-BRT-WACS_ERPFA_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 putting a comma to separate the email IDs.
OUTL-BRT-WACS_ERPFA_TAXJURISDICTION	Used to map **WACS Tax Jurisdiction** with the **ERPFA Location** and **Asset Location** segments. **Note**: make sure no empty value records are added in the **WACS_TaxJurisdiction** column.

Editing Lookups

To edit a lookup:

1. Login to Oracle Integration for Cloud.
2. Navigate to **Integrations** > **Designer** > **Lookups**.
3. Select the look up to edit.
4. Make the necessary changes.
5. Click **Save** and **Close**.

Configuration Properties

The OUTL-BRT-WACS_ERPFA_CONFIGPROPS lookup contains the properties that can be configured and defaulted in the integration.

Property Name	Sample Value	Description
asset.add.batchname	Oracle WACS	Fixed Value, concatenation of "Oracle WACS - " and date in format DD-MON-YYYY HH24MISS.
pa.add.processingmode	Create	Project asset addition processing mode. Fixed Value "Create"
pa.add.assetype	ESTIMATED	Asset type for addition of project asset in Oracle Assets. Fixed Value "ESTIMATED"
pa.add.depreciate	Y	Fixed Value "Y"
retire.asset.trasaction type	COST RETIRE	Transaction type for Fixed asset retirement in Oracle Assets. Fixed Value "COST RETIRE"
retire.asset.postingstatus	POST	Status to be updated while posting Fixed Asset retirements. Fixed Value "POST"
retire.asset.transactionn ame	Retirement from Oracle Utilities WACS	Transaction name for Fixed Asset Retirement in Oracle Assets.
notification.error.flag	true	If this value is set to true, email notifications will be sent out. Valid values are true and false.
extract.ftp.input.directo ry	/scratch/tmp	WACS directory where the Asset extract files are stored and for OIC to pick up from. Required to populate this when WACS is on-premises.
extract.filename.prefix	ERPFA	Asset Extract file name prefix. It should have the same value as the batch parameter filename in Batch Process W1-ERPFA
os.namespace	<your_os_ namespace>	WACS Object Storage namespace serves as a container for all your buckets and objects. Defines the namespace where the buckets and objects the Asset extract file resides. It is used while calling the Object Storage APIs. Required to populate this when WACS is in the cloud.
os.bucketname	WACS-ERP_Assets_Cloud _Extract	WACS Assets Bucket name where the objects or files are stored. Define the bucket name where the Asset Extract files are stored. It is used while calling the Object Storage APIs. Required to populate this when WACS is in the cloud.

Property Name	Sample Value	Description
extract.prefixtag.fileuploaded	Sent-	The text to append to the filename to mark the file as processed or uploaded in WACS-ERPFA. Shared property for the extract flows in this integration.
notification.type.email	email	Notification type
projects.implemented	Yes	Flag to indicate if the project implementation is in place or not. Default value 'Yes'
fa.add.assettype	CAPITALIZED	Fixed asset addition asset type. It is a fixed value.
fa.add.poststatus	POST	Fixed asset addition initial posting status. It is a fixed value.
fa.add.feedersystem	Utilities Work and Asset Cloud Service	Fixed asset addition feeder system
fa.add.depreciate	YES	Fixed asset addition, depreciation value. Fixed Value "YES".
fa.add.queuename	POST	Fixed asset addition queue name
fa.add.transactionname	Oracle WACS Asset Integration	Fixed asset addition transaction name
fa.adjst.transactionname	Adjustment from Oracle Utilities WACS	Fixed asset adjustment transaction name
fa.adjst.transactiontype	ADJUSTMENT	Fixed asset cost adjustment transaction type. It is a fixed value.
fa.adjst.poststatus	POST	Fixed asset adjustment posting status. It is a fixed value.
fa.adjst.transfers.transactiontype	UNIT ADJUSTMENT	Fixed asset unit adjustment transaction type. It is a fixed value.
asset.number.prefix	WACS	Prefix to add for each asset number
extract.ftp.output.directory	/scratch/tmp	WACS directory where the Asset extract files are stored and for OIC to pick up from. Required to populate this when WACS is on-premises.
extract.prefixtag.filenotuploaded	Error-	The text to append to the filename to mark the file as error or not uploaded in WACS-ERPFA.
pa.adj.assetype	AS-BUILT	Project Asset Type
fa.adjst.bi.password	<BIADMIN password>	ERP Password for BI Report Service
fa.adjst.bi.username	BIADMIN	ERP Username for BI Report Service

Property Name	Sample Value	Description
fa.bi.reportUrl	/Custom/ FINWACS/ ERPFA_AssetDetai lsReport_ WACS.xdo	Path of the BI Report object

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

- Reprocess Asset Extract File

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 OUTL-BRT-WACS_ERPFA_EMAIL_ID lookup.

Summary of Integration Error Handling

Integration Process: OU WACS ERPFA Assets OS Extract

Type of error	Action	Notification Type	Retry
Technical Example: No files to extract in the bucket	Stop process	Email	
Remote Example: If the child integration process is not accessible	Continue process	Collect errors and send errors in message	

Integration Process: OU WACS ERPFA Assets FTP Extract

Type of error	Action	Notification Type	Retry
Technical Example: No files to extract in the FTP server folder.	Stop process	Email	
Remote Example: If the child integration process is not accessible.	Continue process	Collect errors and send errors in message	

Integration Process: OU WACS ERPFA Asset Addition

Type of error	Action	Notification Type	Retry
Remote Example: If the child integration process is not accessible.	Continue process	Collect errors and send errors in message	Resubmit the asset addition error instance from OIC
Business Example: If WACS badge number is more than 15 characters.	Skip reocrd and continue process	Collect errors and send errors in message	Correct the record in WACS and add the asset manually in ERP

Integration Process: OU WACS ERPFA Fixed Asset Addition

Type of error	Action	Notification Type	Retry
Remote Example: ERP is not accessible	Stop process	Email	Resubmit the fixed asset addition error instance from OIC
Remote Example: FBDI call has failed	Skip this asset book and continue the process	Email with FBDI zip attachment	Resubmit the fixed asset addition instance from OIC
Business	Continue process	Collect errors and send errors in message	

Integration Process: OU WACS ERPFA Asset Adjustment

Type of error	Action	Notification Type	Retry
Remote Example: ERP API is not accessible	Continue process	Collect errors and send errors in message	Resubmit the Asset Adjustment error instance from OIC.
Remote Example: FBDI call has failed	Skip this asset book and continue the process	Email with FBDI zip attachment	Resubmit the Asset Adjustment instance from OIC.
Business	Continue process	Collect errors and send errors in message	
Business Example: If WACS badge number is more than 15 characters.	Skip record and continue process	Collect errors and send errors in message	Correct the record in WACS and add the asset manually in ERP.

Integration Process: OU WACS ERPFA Asset Retirement

Type of error	Action	Notification Type	Retry
Remote Example: ERP is not accessible	Stop process	Email	Resubmit the Asset Retirement error instance from OIC.

Type of error	Action	Notification Type	Retry
Remote Example: FBDI call has failed	Skip this asset book and continue the process	Email with FBDI zip attachment	Resubmit the Fixed Asset Retiremnet instance from OIC.
Business	Continue process	Collect errors and send errors in message	
Business Example: If WACS badge number is more than 15 characters	Skip record and continue process	Collect errors and send errors in message	Correct the record in WACS and add the asset manually in ERP.

Integration Process: OU WACS ERPFA Project Asset Addition

Type of error	Action	Notification Type	Retry
Remote Example: ERP is not accessible	Stop process	Email	Resubmit the project asset addition error instance from OIC.
Remote Example: FBDI call has failed	Skip this asset book and continue the process	Email with FBDI zip attachment	Resubmit the project asset addition 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.

Reprocess Asset Extract File

To reprocess the Asset Extract file:

1. Login to Oracle Integration Cloud.

2. Navigate to **Integrations** > **Integrations** > **OU WACS ERPFA Assets OS Extract or OU WACS ERPFA Assets FTP Extract** integration and click **Run**.

3. Click **Submit Now**.

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_ERPFA_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_ERPFA_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 ERPFA GenerateHTML Data	generateTable fromXML String	Function to convert the Error handler collection data in XML format to Tabular format	OU WACS ERPPM Common Error Handler

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

Chapter 8

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

Prerequisites

The prerequisites are:

- Make sure that all lookups/DVMs are setup in Oracle Integration Cloud.

- Mandatory configurations are created in Oracle Assets 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 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

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 Assets
- Oracle Integration Cloud

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 Assets

- 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 Assets 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.