Oracle Fusion Customer Experience for Utilities

Implementing CX for Utilities

Latest Release

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Oracle Fusion Customer Experience for Utilities Implementing CX for Utilities, Latest Release

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About This Guide

This guide is for managers and system administrators at a utility who intend to set up one or more of these Oracle Customer Experience (CX) for Utilities solutions:

- CX for Utilities Agent Service
- CX for Utilities Sales

This guide provides an overview of the implementation process for these solutions, and discusses how to:

- Complete Initial Registration and Administrative Tasks
- Configure Data Synchronization
- Configure Single Sign On
- Configure User Synchronization
- Perform a Connectivity Test
- Configure Oracle Utilities Systems
- Configure Fusion Applications
- Configure the Redwood Sales Interface (Sales implementations only)
- Manage Roles and Users
- Test Your Setup

Refer to the related documentation listed in this table for additional information about CX for Utilities and the related systems:

Oracle System	Related Documentation
Oracle Utilities Customer Experience solutions: • CX for Utilities Agent Service • CX for Utilities Sales	See the Customer Experience for Utilities library to access additional information for these solutions, including user and implementation guides.
Fusion CX for Industries Framework	To access information for this system, log into My Oracle Support and view Document KB166238.
Oracle Utilities Customer Cloud Service	See the Oracle Utilities Customer Cloud Service library.
Oracle Utilities Customer to Meter	See the Oracle Utilities Customer to Meter library. Additionally, review the Upgrade Policy to verify that systems are upgraded to the appropriate release and maintenance levels to support all features and functionality. For additional information, see My Oracle Support Document 2876281 Document 2876281.

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Oracle System	Related Documentation
Oracle Fusion Service, which includes: • Service Requests • Knowledge Management • Computer Telephony Integration (CTI) • Email Channels	See the Implementing Service Center Guide in the Oracle Fusion Service library in the Oracle Help Center.
Oracle Redwood Sales, which includes: • Contacts • Accounts • Leads • Opportunities	CX for Utilities Agent Service requires the use of Oracle Sales using the Redwood user experience. See these guides in the Oracle Sales library, located in the Oracle Help Center: • *Implementing Sales Guide* • *Using Sales in the Redwood Experience Guide*

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Implementation Overview

Before you can use any of the Oracle Customer Experience for Utilities solutions, you should have a complete understanding of how the different Oracle systems are integrated, the technical requirements that must be met, and the implementation steps you must complete to successfully implement the solution.

This chapter provides an overview of the solution architecture, lists technical requirements, discusses possible extension points that are available, and provides a list of the tasks you need to complete for your implementation.

In this chapter:

- Solution Architecture
- Technical Requirements
- Extension Points
- Setup Tasks

Solution Architecture

This graphic illustrates the CX for Utilities Agent Service solution architecture:
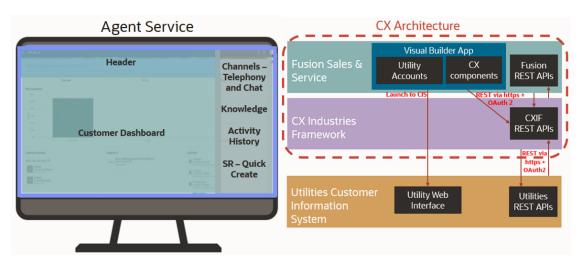
Figure 2-1   Agent Service Architecture

This graphic illustrates the CX for Utilities Sales solution architecture:
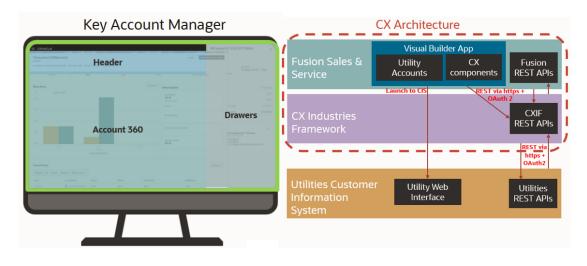
Figure 2-2   Kay Account Manager Architecture

This graphic illustrates the data flow between the different systems used within the Customer Experience for Utilities solutions:

Figure 2-3   Data Flows

For additional information about the flow of data using APIs, see Appendix: Rest APIs.

Technical Requirements

To use CX for Utilities Agent Service, you must have licenses for the following Oracle products:

- Oracle Utilities Customer Cloud Service or Oracle Utilities Customer to Meter
- Oracle Customer Experience for Utilities - Fusion Agent Service Cloud Service
- Oracle Intelligent Advisor

This product is optional, and is used with the Create Payment Plan feature, available in CX for Utilities Agent Service.

To use CX for Utilities Sales, you must have licenses for the following Oracle products:

- Oracle Utilities Customer Cloud Service or Oracle Utilities Customer to Meter

- Oracle Customer Experience for Utilities - Fusion Sales Cloud Service

All additional Oracle Fusion products that are required for these experiences are included when you purchase the above licenses. Additional optional licenses might be needed to enable some features.

Extension Points

You can configure the experiences using the Oracle Visual Builder Studio application. Oracle Visual Builder Studio is an application development platform that helps you to develop an application extension and manage the entire development life cycle, from creation to publication.

Here are the extension points available:

- **Dynamic Forms and Tables:** Enables extensions to add, remove, reorder, or change the rendering of fields.

- **Dynamic Containers:** Enables extensions to insert content and to add, remove, or reorder base application content.

- **Constants, Variables, and Types:** Extensions can override base application constants or read and write to variables made available by the base application. User-defined types can also be made available for use by extensions.

- **Events:** Enables extensions to trigger base application behaviors or to respond to events initiated by the base application.

- **App UIs (New Flows):** Extensions can define new app UIs in which they can create new UI flows that are either linked from or embedded within existing pages.

For additional information about configuring and extending Oracle applications, see *Configuring and Extending Applications* in the Applications Common library on Oracle Help Center.

Setup Tasks

This section discusses the two different types of setup tasks that you must complete to use the Customer Experience for Utilities solutions. First, you complete the provisioning tasks, which includes provisioning each of the products included in the solution, and completing the steps that connect those systems so that data can flow between them. Once you have completed the provision steps, you complete the user and application setup steps, which includes creating and managing users and roles, and setting up the features you will use in each of the applications.

Provisioning Tasks

The first part of the setup process is to provision your systems, and connect them so that users can access each system, and data is easily shared between them.

This diagram provides an example of what your implementation looks like before completing the provisioning tasks:
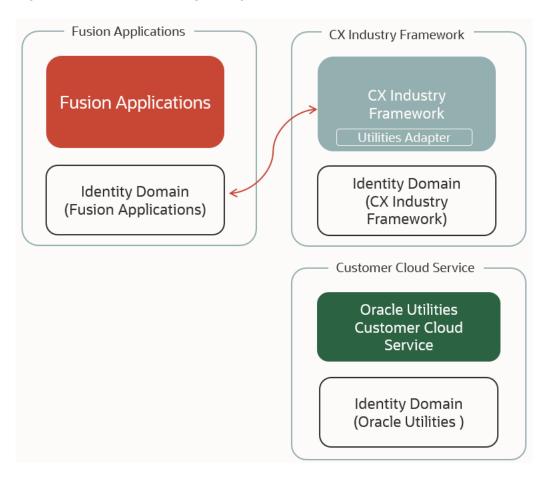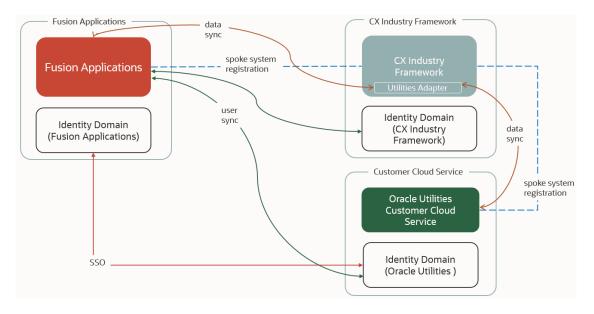
Figure 2-4   Pre-Provisioning Example

This diagram provides an example of what your implementation looks like after completing the provisioning tasks:

Figure 2-5   Post-Provisioning Example

These tables list the provisioning tasks that you must complete, in order, to implement Customer Experience for Utilities solutions.

Setup Task	Reference
Complete initial registration and administrative tasks, which include: • Provisioning your Oracle Cloud applications. • Installing and provisioning Oracle Utilities on-premises environments (if using an on-premises customer information system). • Preparing your Oracle Utilities environments for registration. • Registering your Oracle Utilities environment and Fusion applications. • Completing cloud service administration tasks. • Complete Fusion system registration tasks. • Complete Oracle Utilities initial setup tasks.	See Complete Initial Registration and Administrative Tasks.
Complete utility configurations using REST APIs, which includes: • Integration configuration • Industry reference types configuration	See Configure Utility Details.
Configure the initial data synchronization (for implementations with existing CIS data only) and ongoing data synchronization process.	See Configure Data Synchronization.
Configure Single Sign On (SSO) which includes: • Setting up your Customer Cloud Service identity domain as the service provider in your Fusion applications identity domain. • Setting up your Fusion applications identity domain as your identity provider in the Customer Cloud Service identity domain. • Testing your SSO.	See Configure Single Sign On.
Configure user synchronization between source systems, which includes: • Migrating existing Customer Cloud Service users to Fusion applications. • Synchronizing users between Fusion applications and Customer Cloud Service. • Assigning user access in Customer Cloud Service. • Synchronize users between Fusion applications and the CX Industry Framework identity domain. • Assigning User Access in CX Industry Framework.	See Configure User Synchronization.
Perform the connectivity test. Once you have completed this step, the remaining setup tasks can be done in order.	See Perform a Connectivity Test.

User and Application Setup Tasks

After you have completed the provisioning setup, use the table below to identify the steps you must complete to set up users and enable features in your applications.

Setup Task	Reference
Manage users and roles, which includes: • Understanding role-based security • Understanding pre-defined privileges • Creating and managing users	See Manage Users and Roles.
Configure these items in your Oracle Utilities customer information system: • Zones in Customer 360 and Dashboard Portal • Insight types • Person data options • To Do types • Start/Stop/Transfer processes • Inbound web services (APIs) • Extendable lookups • Data synchronization • Populating old billing account IDs, if needed	See Configure Your Oracle Utilities System.
Configure Oracle Fusion applications, which includes setting up: • Adaptive search • Account hierarchy • Computer Telephone Integration (CTI) • Email channels • Knowledge Management features • Oracle Intelligent Advisor • Service requests	See Configure Fusion Applications.
Set up the Redwood Sales Interface for CX for Utilities Sales, which includes: 1. Set up the Dynamic layout using Visual Builder. 2. Set up the Sub-view Container layout using Visual Builder 3. Create Dispatcher rules. 4. Update parent links. 5. Create smart actions.	See Configure the Redwood Sales Interface.
When you have completed all of the setup steps, test your setup by completing standard end user tasks.	See Test Your Setup.

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Complete Initial Registration and Administrative Tasks

Before you begin the implementation and setup tasks for Oracle Customer Experience for Utilities solutions, you must first ensure that your products are provisioned and registered, and that you have completed standard service administrative tasks. Once these tasks are complete, you can begin configuring your solution so your systems can communicate properly.

In this chapter:

*   Provision Your Oracle Cloud Applications

Provision Your Oracle Cloud Applications

The first step in the process is to provision all of the Oracle Cloud applications that are used by the Oracle Customer Experience for Utilities solutions. The cloud applications included in your implementation might vary, but can include:

*   Oracle Utilities Customer Cloud Service
*   Oracle Customer Experience for Utilities - Fusion Agent Service Cloud Service
*   Oracle Customer Experience for Utilities - Fusion Sales Cloud Service
*   Oracle Fusion CX Sales
*   Oracle Fusion Service
*   Oracle Fusion Chat and Cobrowse Cloud Service (Optional)

For instructions and additional information about provisioning Oracle cloud applications, see Get Started with Oracle Cloud Applications in the Oracle Help Center.

In this section:

*   Install and Configure Your Oracle Utilities On-Premises System
*   Prepare Your Oracle Utilities Environments for Registration
*   Register Your Oracle Utilities Environment and Fusion Applications
*   Complete Cloud Service Administrator Tasks
*   Fusion System Registration Tasks
*   Complete Oracle Utilities Initial Setup Tasks

Install and Configure Your Oracle Utilities On-Premises System

If you are using Oracle Utilities Customer to Meter as your customer information system, you must install and configure the system so that it will communicate with your Oracle Customer Experience for Utilities solutions.

For instructions on implementing Oracle Utilities Customer to Meter, see the Installation Guides section of the Oracle Utilities Customer to Meter library.

The current version of Oracle Utilities Customer to Meter runs with Oracle Fusion Middleware and Weblogic 12. The configuration of Weblogic should include Oracle Web Service Manager (OWSM). For details, see the Installing and Configuring the Oracle Fusion Middleware Infrastructure Guide, available in the Oracle Fusion Middleware library.

Additionally, you must verify that the **persistent-store-type** element within the web application session-descriptor element is set to `replicated-if-clustered`. For details on this setting, see Session Descriptor in the *Developing Web Applications, Servlets, and JSPs for Oracle WebLogic Server Guide*.

After you complete the installation and configuration of your system, you must verify the following before continuing with the Customer Experience for Utilities implementation:

- You have full administrator access to all systems used by your implementation, including the identity and access management solution used by your Oracle Utilities Customer to Meter system.

- The Oracle Web Service Manager (OWSM) is available.

- A detailed design plan exists before Customer Experience solution setup begins. Work with your Oracle implementation and delivery team to create this plan.

In this section:

- Establish Network Connectivity and Enable OAuth for Customer to Meter
- Securing RESTful Web Services with OAuth

Establish Network Connectivity and Enable OAuth for Customer to Meter

Customer Experience for Utilities solutions require you to verify that the following items are true:

- Oracle Utilities REST APIs are exposed via a public IP address.

- Your Oracle Utilities Customer to Meter system is allowed to send web service requests to Customer Experience Industry Framework (CXIF).

- OAuth-based authorization for inbound and outbound web services is implemented and enabled in your Oracle Utilities Customer to Meter system. This is needed to support successful communication between solution components.

Securing RESTful Web Services with OAuth

Various options exist for implementing the OAuth Server. This service may be provided by Oracle Identity Manager, Oracle Cloud Infrastructure Identity Access Manager, Identity Domains, or by another application. Oracle recommends using Identity Domains and leverage the out-of-the-box integration with Weblogic and Oracle Web Service Manager. The remaining steps in this guide are based on using the recommended approach.

Be aware that the documentation for these systems mention Oracle Identity Cloud Service (IDCS), but Oracle Customer Experience for Utilities no longer uses IDCS. The same setup described in that documentation can be used interchangeably with IDCS or with Identity Domains.

If your implementation uses an Oracle Cloud Infrastructure Identity Access Manager (IAM) Identity Domain as the OAuth server, you should complete the following tasks outlined in Securing RESTful Web Services Using OWSM with IDCS:

- Configure Security Provider with Weblogic Server

- Secure REST Services using OWSM OAuth2 security policies. Attach the Oracle Web Service Manager (OWSM) security policy globally to the REST web services and configure trust.

- Perform OAuth2 configuration. This task can be done at this point in your implementation, or later, as a part of the Verifying Access to Customer to Meter with OAuth, discussed in the Prepare Your Oracle Utilities Environments topic.

See also:

- "Enable OAuth on the Product" in the *Oracle Utilities Customer to Meter Security Guide*, available in the Oracle Utilities Customer to Meter library.

- Web Services Best Practices for Oracle Utilities Application Framework, available in My Oracle Support Document 2214375.1.

Prepare Your Oracle Utilities Environments for Registration

Complete these steps for your Oracle Utilities system.

For Customer Cloud Service Environments

Before you can register your environments, you must contact your delivery team and request that they prepare your Oracle Utilities customer information system environments for registration.

Confirm the non-production Customer Cloud Service environments where you want to enable the CX for Utilities experiences. For example, DEV or TEST. Your delivery team can help you determine these details.

For Customer to Meter Environments

Complete these tasks:

- Configure and verify the access to the C2M REST API with OAuth-based authorization.

- Configure the system to support user interface embedding for CX for Utilities Agent Service and the data synchronization between Fusion Applications and Customer to Meter. This includes:

    – Set System Properties

    – Substitution Variables for Data Synchronization

    – Substitution Variables for Embedded Application Support

    – Configure the Content Security Policy

In this section:

- Verifying Access to Customer to Meter API with OAuth

- Configure Customer to Meter to Support Embedded Applications and Data Synchronization

Verifying Access to Customer to Meter API with OAuth

If you not yet done so, define an OAuth resource to represent your Customer to Meter REST API endpoint and create an OAuth Client with permission to access this resource. For instructions, see IDCS OAuth2 Configuration in the Securing RESTful Web Services chapter of the *Use Cases for Securing Web Services Using Oracle Web Services Manager* document.

Request the CXIF certificate from your Oracle Support team, and amend the OAuth Client configuration to indicate that the client is trusted, then install a CXIF certificate on the OAuth Client,

Configure Customer to Meter to Support Embedded Applications and Data Synchronization

To support ongoing data synchronization between Oracle Utilities Customer to Meter and the Oracle Fusion applications required for these solutions, you must configure the substitution variable for the CX Industry Fabric (CXIF) URL to support Message Sender configuration.

If your implementation includes CX for Utilities Agent Service, configure the CORS filter and Content Security Policy as described below. For instructions on the substitution variables technique, refer to the "Installation and Planning Worksheets" section of the Customer to Meter Installation Guide, available in the Oracle Utilities Customer to Meter library.

Set System Properties

Set the following properties in Oracle Utilities Application Framework:

- com.oracle.ouaf.web.csp.enable=true

- com.oracle.ouaf.web.allowCORS=true

- com.oracle.ouaf.web.csp.allowedFrameAnsMaxNumber=MAX-NUMBER

  The default value is 2. If you created more than 2 host variables, update this value to reflect the number of host variables.

- com.oracle.ouaf.uriSubstitutionVariables.file=FILE-PATH-VALUE

  This is the file path where substitutionVariableList.xml is located.

Verify that com.oracle.ouaf.web.disableSecureCookie is not present, or is set to false.

Create Substitution Variables for Data Synchronization

Create the following substitution variable:

- C1FABRIC with value <fabric APIGW host>

This variable is then used in when configuring the Ongoing Data Synchronization.

Create Substitution Variables for Embedded Application Support

For the CORS filter, create the following substitution variables:

- FA_DOMAIN: Populate this value with the Fusion Applications URL

- ALM_DOMAIN: Populate this value with the https://alm.oraclecorp.com

- CSP_FRAME_ANS_HOST1: Populate this value with the Fusion Applications URL

- CSP_FRAME_ANS_HOST2: Populate this value with the Fusion Applications identity domain (or IDCS) URL

If additional host variables are needed, create them by incrementing the number. For example, create CSP_FRAME_ANS_HOST3 if your system is configured for Single Sign On with an External Identity Provider.

Configure the Content Security Policy

If CORS is enabled, the Oracle Utilities Application Framework responds with a Content Security Policy (CSP) header that controls frame-ancestors, script source, image source, and other attributes.

By default, Oracle Utilities Application Framework populates CSP header options as follows.

```
default-src 'self'; img-src 'self' data: ; script-src 'self' 'unsafe-inline'
                'unsafe-eval'; style-src 'self' 'unsafe-inline'; base-uri
'self'; form-action
                'self';
```

Customize the web.xml.template and list all of the allowed origins for the CSP Filter under the cspOption parameter value, as described below.

1. Run this command: cd $SPLEBASE/templates

2. Run this command: cp web.xml.template cm.web.xml.template

3. Run this command: vi cm.web.xml.template

4. Locate this line:

```
<param-value>default-src 'self'; img-src
                        'self' data: ; script-src 'self' 'unsafe-inline'
'unsafe-eval'; style-src
                        'self' 'unsafe-inline'; base-uri 'self'; form-
action
                        'self';</param-value>
```

5. Set the new value to:

```
<param-value>default-src 'self'; img-src
                        'self' data: ; script-src 'self' 'unsafe-inline'
'unsafe-eval'
                        https://static.oracle.com; style-src 'self'
'unsafe-inline'; base-uri
                        'self'; form-action 'self';</param-value>
```

6. Execute: initialSetup.sh

7. Re-deploy and re-start the application.

Register Your Oracle Utilities Environment and Fusion Applications

After your Oracle applications are provisioned, you must register your Oracle Utilities customer information system environment with CX Industry Framework. The steps in this process are completed with assistance from the Oracle delivery team. You will work with them to enter client-specific information during the registration process.

When you are ready to complete this task:

1. Create an administrative user in CX Industry Framework.

2. Complete the registration steps outlined in My Oracle Support Document 2913192. Contact your Fusion Application Support team if you need assistance. This task should be completed every time you upgrade to a new release. See Upgrade Considerations.

3. Register your CX Industry Framework system account in Fusion Applications. For details, see the System Registration Tasks section in Fusion System Registration Tasks.

Create an Administrative User in CX Industry Framework

You create this user to administer the utility configurations.

1. Log in to your CX Industry Framework identity domain as an administrator.

2. Create and activate a new user account using the following information:

> - Select Oracle Cloud Services from the navigation panel and locate the application corresponding to the CX Industry Framework instance. The name starts with **CXIF**, and the description likely reads "CXIF IDCS Application". It was created during the CX Industry Framework provisioning process.
> - Select the application and then, under Resources, select Application Roles.
> - Assign the user to the following roles, which are required for Utility Configuration API access:
>   - CXIF_Configuration_API_Registration_Read
>   - CXIF_Configuration_API_Registration_Write
>   - CXIF_Configuration_Endpoint_Read
>   - CXIF_Configuration_Endpoint_Write
>   - CXIF_Configuration_Routing_Read

Complete Cloud Service Administrator Tasks

Your Service Administrator must complete critical tasks listed in the Administrator Action List. By completing these tasks, you optimize the onboarding experience for you and your organization. You also ensure the successful implementation and ongoing use of your Oracle services and applications.

Tasks include:

- Verifying access and retaining sign-in details.
- Registering your Customer Support Identifier with My Oracle Support.
- Verifying access to administrator portals and identifying backup administrators.
- Adding notification contacts.
- Understanding the Oracle Support process.
- Review information that can assist you with your implementation, such as documentation, videos, and release readiness materials.

See the Administrator Action List for additional information and instructions.

Fusion System Registration Tasks

To use the CX for Utilities experiences, you must first enable the Oracle Fusion features you want to use and then register your CX Industry Framework system account. This includes:

- Enabling offerings
- Registering your CX Industry Framework account
- Register your CX Industry Framework Configuration account
- Enabling multiple Business Units for service
- Enable extensions

This table outlines each of these tasks.

Task	Description
Enable Offerings	You must enable the features in the Oracle Fusion Service and Oracle Sales systems that you want to use. For instructions on enabling offerings, see Offering Configuration in the *Using Functional Setup Manager Guide*, available in the Oracle Help Center.
	You must register your CX Industry Framework system account. This task should be completed by your Fusion Applications security administrator.

Task	Description
Register CX Industry Framework System Accounts	To register your accounts:

1. Log in to Fusion Applications, navigate to Tools and then select the Security Console.

2. Create a new user account using **FABRIC_CX4U_SYSTEM_USER** as the user name.

3. Specify the security administrator email address and set the initial password.

4. Add the following roles:
   - ORA_PER_EMPLOYEE_ABSTRACT
   - ORA_HZ_RESOURCE_ABSTRACT
   - ORA_UER_UTILITIES_CUSTOMER_SERVICE_REPRESENTATIVE_JOB
   - ORA_UER_UTILITIES_CUSTOMER_SERVICE_ADMINISTRATOR_JOB
   - ORA_UER_UTILITIES_CUSTOMER_SERVICE_MANAGER_JOB
   - ORA_UER_UTILITIES_KEY_ACCOUNT_ADMINISTRATOR
   - ORA_UER_UTILITIES_KEY_ACCOUNT_MANAGER_FOR_SALES
   - ORA_UER_UTILITIES_KEY_ACCOUNT_MANAGER_FOR_SERVICE
   - ORA_UER_UTILITIES_KEY_ACCOUNT_SUPERVISOR_FOR_SALES
   - ORA_UER_UTILITIES_KEY_ACCOUNT_SUPERVISOR_FOR_SERVICE

5. Log in to the Fusion Applications identity domain and locate the **FABRIC_CX4U_SYSTEM_USER** user you just created.

   Note: Depending on the order in which you've performed the administrative tasks, the user account might have synchronized automatically. If it is not yet present, create the new user manually, using **FABRIC_CX4U_SYSTEM_USER** as the user name and mark the user as **Federated** during creation.

6. Log in to the CX Industry Framework identity domain and locate the **FABRIC_CX4U_SYSTEM_USER** user.

   Note: Depending on the order in which you've performed the administrative tasks, the user account might have synchronized automatically. If it is not yet present, create the new user manually, using **FABRIC_CX4U_SYSTEM_USER** as the user name and mark the user as **Federated** during creation.

Task	Description
Register CX Industry Framework Configuration Account	1. Log in to the CX Industry Framework identity domain. 2. Create a new user, specifying **CX4U_CONFIG_ADMIN** as the username. 3. Select Oracle Cloud Services from the navigation panel and locate the application corresponding to the CX Industry Framework instance. The name likely starts with **CXIF**, and the description likely reads "CXIF IDCS Application". It was created by the CX Industry Framework provisioning. 4. Assign this newly created user to the following application role: • CXIF_Configuration_Endpoint_Read
Enable Multiple Business Units	Your system administrator must complete this task before completing any of the additional tasks listed in this table. For detailed instructions, see Manage Common CRM BU Profile Options for Service BUs in the Implementing Service Center with the Redwood Experience Guide.

Enable Utility Extensions in the Extension Manager API	POST <host>/fscmRestApi/vx/v2/extensions/industry
	Payload:
	
	{
	
	"extensions": [
	
	{
	
	"extensionId": "oracle_cx_advancedcustomercareUI",
	
	"enabled": true
	
	}
	
	]
	
	}

Complete Oracle Utilities Initial Setup Tasks

Before you can use the Customer Experience for Utilities solutions, you must ensure that the related features are set up appropriately in your Oracle Utilities customer information system. The following table identifies each item that needs to be set up during the initial setup process, provides implementation details, and refers you to related documentation that can assist you.

All of the documentation listed below (unless otherwise noted) can be found in one of the following libraries the in the Oracle Help Center, along with additional information about using and configuring your Oracle Utilities customer information system:

- Customer Cloud Service library
- Customer to Meter library

Task	Details	Documentation
Extendable Lookups	Extendable lookups are used to control some items within the Oracle Customer Experience for Utilities solutions, such as: • Available locations for knowledge icons • The ongoing person data integration The person synchronization is controlled by an **F1-DataSyncControl** extendable lookup business object of **C1-CX4U-PERSON**. The status of this lookup record must be active to enable the synchronization and the external system and message sender must be configured.	See Defining Extendable Lookups in the *Administration Guide*

Task	Details	Documentation
Data Synchronization	Person data synchronization is used to trigger updates to the Oracle Customer Experience for Utilities and other Oracle systems when person record changes are made. To set up the synchronization, be aware that: • The maintenance object of **PERSON** is delivered with a generic audit algorithm of **F1ONGDATASYN** for ongoing data synchronization plugged in so that a generic outbound sync request can be processed by the **F1-SYNRQ** sync request monitor batch process. • This batch process should be scheduled to run as frequently as ongoing updates need to be synchronized to Customer Experience for Utilities and other systems. • This is a generic batch process that can be used for many objects but has parameters that can be used to control which sync request BOs to process, such as **F1-GenericDataSync**.	See: • Data Synchronization in the *Administration Guide* • Configure Data Synchronization

4

Configure Utility Details

Before you can use CX for Utilities applications, you must ensure that the administrative details of your utility and the services that you provide are properly configured. This includes:

- Generating an access token
- Completing the integration configuration tasks. These configuration tasks are completed using REST APIs.
- Completing the reference type configuration tasks. Most of these configuration tasks are completed using REST APIs, but some can be configured using Functional Setup Manager.
- Setting profile options

These tasks should be completed by your system administrator.

In this chapter:

- Generate the Access Token
- Integration Configuration Tasks
- Customer Experience for Utilities Reference Type Configurations
- Using Functional Setup Manager to Configure Utility Details
- Setting Profile Options

Generate the Access Token

The bearer token for authorization can be generated using clients such as Postman. This example describes how to generate the token using Postman.

1. Select OAuth 2.0 as the **Authorization Type**.

2. Select Authorization Code as the **Grant Type**.

3. Enter the following information. If you are unsure how to access this information, see Finding Access Token Information below.

   - **Access Token URL:** This URL is the endpoint for the authentication server, and is used to exchange the authorization code for an access token. For example, https://xxxxxxxxxx.identity.com/oauth2/v1/token

   - **Client ID:** Enter the client identifier issued to the client during the application registration process. For example, CXIF_FA_xxxxxxx_APPID

   - **Client Secret:** Enter the client secret issued to the client during the application registration process.

   - **Scope:** This value is used to grant specific permissions in the access request. For example, https://xxxxxxxx.oci.customer-oci.comurn:opc:resource:consumer::all

   - **Callback URL:** This is the callback URL to which redirection will happen after authorization. This URL should match the one used during the application registration process. For example, https://xxxxxxxxxxx.oci.customer-oci.com/oidc/redirect

- • **Auth URL:** This URL is the endpoint for the authorization server. This is used to get the authorization code. For example, https://xxxxxxxxx.identity.com/oauth2/v1/authorize

4. Click **Get New Access Token** and user credentials to be provided in the flow in the next step.

5. Enter the user credentials associated with the user you just set up above.

6. On submit, a new token is generated that can be used to invoke the API.

Finding Access Token Information

If you are unsure of how to locate the information requested in the above task, a system administrator can find the values using these steps.

1. Log into your Oracle Cloud account as an administrator.

2. From the main menu, select Identity & Security and then select Domain.

3. In the List scope section, select a value from the Compartment field.

4. The system displays a list of domains you have access to.

5. Click on your CXIF domain. The name of this domain typically includes both CXIF and Fusion.

6. The system displays your domain, where you can find the following data:

   - • **Access Token URL:** This data appears in the Domain URL field at the top right of the screen.

7. In the navigation list on the left of the screen, select Oracle Cloud Services.

8. The system displays a list of cloud services.

9. Select the service that begins with CXIF and does **not** end with CCSApp.

10. On this screen you can find the following data:

    - • **Client ID:** Scroll down to the General Information section and note the Client ID.

    - • **Client Secret:** Scroll down to the General Information section and you can display the client secret.

    - • **Scope:** This value should be the concatenation of the value in the Primary Audience field and the value in the Scope table. For example, https://xxxxxxxx.oci.customer-oci.comurn:opc:resource:consumer::all

    - • **Callback URL:** Scroll to the Authorization section and use the URL listed in the Redirect URL field.

    - • **Request URL:** This value should be the portion of the URL that is in the Primary Audience field, up through *oraclecloud.com*.

Integration Configuration Tasks

The **<CXIF-host>/admin/utilityConfigurations** is a REST service that is available to manage business configuration for the CX Industry Framework layer, which is required to enable integration between Fusion applications and your Oracle Utilities customer information system. You can access documentation about this REST service by logging in to My Oracle Support and viewing Document KB166238.

Before you complete the steps in this section, you must first verify your administrative user in the CX Industry Framework identity domain.

To Verify Administrative User in CX Industry Framework

1. Identify the administrative user you created during the registration process to administer the configurations in the Utility Configurations REST service.

2. Verify that this user exists and is set up correctly. See Registering Your Oracle Utilities Environment and Fusion Applications for details.

After you have verified your administrative user, you can:

• Generate the access token

• View and edit the configuration, which includes:

– Person data sync

– Extended field configurations

– Work Queue extended field configurations

– Knowledge Management configurations

– Customer List search settings

– Service type settings

– Export component settings

– Target URLs

– Feature flag settings

– Oracle Intelligent Adviser

– Miscellaneous settings

– Country code mapping

When upgrading your Customer Experience solution to a new release, you must backup these configurations and merge them into your system post-upgrade. See Upgrade Considerations for additional information.

In this section:

• View and Edit the Existing Configuration

View and Edit the Existing Configuration

To meet the needs of your utility, you can view and edit the existing configuration.

To view the existing configuration:

• Request URL: <CXIF-host>/admin/utilityConfigurations

For example, https://xxxxxxxx.oci.customer-oci.com/admin/utilityConfigurations

• Operation: GET

• Authorization: OAUTH2.0

For instructions on how to find the request URL, see #unique_51/unique_51_Connect_42_section_af5_3rr_42c.

To edit the configuration:

1. Get the response using a GET call.

2. Using the tables in this section, update the configuration and perform a PUT operation to the same endpoint with the entire object as the payload.

Available Configurations

The following topics describe the available configurations by integration point in Customer Experience for Utilities applications. The name in the first column is the **{id}** of the Utility Configurations to be updated.

In this section:

- Extended Field Configurations

- Interaction History Configurations

- Person and Premise Search Configurations

- Person Data Sync Configurations

- Work Queue Extended Field Configurations

Extended Field Configurations

The table below provides the extended field configurations that store the mapping of the extended fields of the Contact and Account objects between Fusion applications and your Oracle Utilities application.

Use the Fusion Model Extension to extend the Fusion Contact and Account data model to define new fields for the characteristic types, as needed. Then, in the utility configuration, under Extended Fields, provide the mapping between the Fusion applications fields and corresponding Oracle Utilities fields.

Extended Field Data	Configuration	Comment
Name: characteristics **Description:** Holds the extended fields mapping.	**Examples:** "ccsValue": "C1-SVTKA", "faValue": "MyHobby" "ccsValue": "C2MBTHDT", "faValue": "DateOfBirth" "ccsValue": "C1-NICK", "faValue": "FavColor"	Characteristics can be configured to store additional data in your Oracle Utilities system. Each extension field requires a Characteristic Type as the cssValue, which can be mapped to fixed fields delivered in the Fusion application schemas.

Interaction History Configurations

This table provides the information needed to configure interaction history display.

Settings Data	Configuration	Comment

Name: defaultDisplayIconOracle
 	
Description: Set the display icon of an interaction
	Modify the value of defaultDisplayIconOracle as follows:
	
	``
	{
	
	"name":"defaultDisplayIconOracle",
	"value": "ico-financials.svg"
	
	}
	``	

Name: interactionTypeTagMap
 	
Description: Holds the out of the box mappings for Oracle Fusion calls. This will be a string of list of values in the "Tag Code":"Tag Description" format.
	Modify the value of interactionTypeTagMap as follows:
	
	``
	{
	"name": "interactionTypeTagMap",
	"value": "SR:Service Request,CM:Conversation Message,E:Email"
	
	}
	``
		Any custom values would be added here by updating the mapping.

Person and Premise Search Configurations

The Person and Premise Search includes search filters that are listed in a main list, and in sub-list categories for **Primary Identifier** and **Geo Type**. These search filters enable your agents to search for the right person or account using the right information. For example, your utility might use Driver's License Number as the primary identifier, while another utility might use Social Security Number. Your utility must determine which filters to include in the main list and in the sub-list categories. Using the information described in the tables below, your utility can rearrange the list, move items from a sub-list category to the main list, move items from the main list to a sub-list category, or remove items from the list.

Settings Data	Configuration	Comment

Name: CustomerList_Landing_Settings
 	
Key: filters
 	
Description: Default field mapping templates for Customer List Landing
	For example, to add a new ID in the main list:
	
	`{`
	
	`"name": "NewName",`
	
	`"label": "NewNameLabel`
	
	`"target-system": "{CCS/ CX}",`
	
	`"value": "{VALUE}"`
	
	`},`
	
	For example, to remove Prior Billing Account ID from main list:
	Remove below section from filter section in CustomerList_Landing_Settings
	
	`{`
	
	`"name": "PriorAccountNumber",`
	
	`"label": "Prior Billing Account ID",`
	
	`"target-system": "CCS",`
	
	`"value": "{\"name\":\"C1LA\",\"value\":\"${value}\"}"`
	
	`},`
	
	For example, to move filter item to the main list from the Primary Identifier sub-list:
	Cut the Driver Licenses section from the Primary Identifier sub-list and add it to the main list.
		New filters should be added only under Geo Type and Primary Identifiers.
		
		You must first decide which labels you want to appear in the Person and Premise Search filter list, and create a configuration record for each item that displays.

Use this table to set up each filter configuration you want to add to the search filter:

Configuration	Type	Purpose
name	string	Unique identifier for the filter.

Configuration	Type	Purpose
label	string	Label that displays for the filter.
target system	string	The target-system for data. This is set as a hard-coded value of **CCS** for Oracle Utilities Customer Cloud Service and Oracle Utilities Customer to Meter.
	string	JSON string representation of the filter with properties:

Configuration: name

- Type: string
- Purpose: Unique identifier for the filter in target-system. Should be "C1GE" for "GeoType" and "C1ID" for "Primary Identifier" filters respectively for Oracle Utilities customer information systems.

Configuration: value

- Type: string
- Purpose: Should be hard-coded to ${value} and would be used internally to pass the User input at run time.

Configuration: class

- Type: string
- Purpose: Unique identifier for the filter in target-system. Set the value to the value that is defined in your Oracle Utilities customer information system.

Person Data Sync Configurations

The table below provides the business configurations available for attributes that can be mapped for the Fusion Contact (individual) or Account (business) synchronization to Persons in the Oracle Utilities system.

Person Data Sync Configurations for communicationType include new fields, iconClass, contactPointPurposeField and contactPointValueField, that require mapping. The iconClass refers to class of the icon that can be used in the interface for the communication type. The contactPointPurposeField and contactPointValueField both map to the Fusion application API field for the associated communication type, and are used to retrieve the corresponding contact purpose data and contact point value.

Person Data	Configuration	Comment
Name: IdentifierType **Description:** Holds the mapping of lookup values for customer legal entity identifier types.	**Example:** "ccsValue": "DL NUMBER", "faValue: "DRIVER_LICENSE", "isPrimary": false	This mapping is not currently used by the delivered data synchronization flows but is available as a sample and for possible future support within the solution.
Name: communicationType **Description:** Holds the mapping of lookup values for COMMUNICATION_TYPE.	**Example:** "ccsValue": "FAX", "faValue": "TLX" "iconClass": "oj-ux-ico-laptop", "contactPointPurposeField": "WebPurpose",	This list of values is fixed in Fusion applications and configurable in Oracle Utilities systems, where it is referred to as a routing type. If the values in Oracle Utilities are different than the fixed values in Fusion, you can map the corresponding values. If there is no entry, the values will be passed through unchanged.
Name: PHONE_purpose **Description:** Holds the mapping of lookup values for the CONTACT_PURPOSE type.	**Example:** "ccsValue": "WORKPHONE", "faValue": "BUSINESS" "ccsValue": "FAXPHONE", "faValue": "FASCIMILE-NEW"	This refers to the contact purpose specific to the PHONE contact type. You might not have the same contact purpose names configured in both systems. Be aware that in Oracle Utilities systems, FAX is a contact routing type that needs at least one value set as the primary value. In Fusion applications, FAX is a purpose field under Communication Type = Phone. The Communication Type needs at least one primary value in Fusion applications as well. To handle this mismatch, set up Fax as a custom communication method in your Oracle Utilities system to mimic the Fusion application setup so the sync will be successful. If you have different contact purpose names configured in Fusion applications and your Oracle Utilities system, update the mapping between Fusion applications and your Oracle Utilities system purpose name, and store it under the PHONE_purpose configuration in utilityConfigurations API, as FAX is considered to be a type of phone number.

Person Data	Configuration	Comment
Name: EMAIL_purpose **Description:** Holds the lookup values for the CONTACT_PURPOSE type.	**Example:** "ccsValue": "PRIMARYEMAIL", "faValue": "PERSONAL"	This refers to the contact purpose specific to the EMAIL contact type. You might not have the same contact purpose names configured in both systems.
Name: WEB_purpose **Description:** Holds the mapping of lookup values for the CONTACT_PURPOSE type.	**Example:** "ccsValue": "WEB", "faValue": "PERSONAL"	This refers to the contact purpose specific to the WEB contact type. You might not have the same contact purpose names configured in both systems.

Work Queue Extended Field Configurations

The table below provides the extended field configurations for the Work Queue table.

These extension fields can be configured using the data in the table below. After configuration is complete, you can then add the extended fields to the Work Queue. See Adding Columns to the Work Queue for additional information.

Extended Field Data	Configuration	Comment

Name: WQ_Default
Keys:
extensionIntField1
extensionIntField2
extensionIntField3
Description:
These fields hold Oracle Utilities customer information system API mapping for new fields that are of data type integer.
	Examples:
	
	`{`
	
	`"name":"extensionIntField1", "value": "<<new CCS Field>>",`
	
	`"properties":`
	
	`[{`
	
	`"name": "dataType",`
	
	`"value": "integer"`
	
	`}]`
	
	`}`
		This field configuration can be used to extend an Oracle Utilities customer information system API field that is type INTEGER and needs to be rendered in the Work Queue table.
		
		The same configuration can be used on fields extensionIntField2 and extensionIntField3 to further extend other INTEGER type fields.
		
		By default the value is "" (empty string).

Extended Field Data	Configuration	Comment

Name: WQ_Default
Keys:
extensionDateField
extensionDateField
extensionDateField3
Description:
These fields hold Oracle Utilities customer information system API mapping for new fields that are of data type long (timestamp).
	Example:
	
	{
	
	"name":"extensionDateField1", "value": "<<new CCS Field>>",
	
	"properties":
	
	[{
	
	"name": "dataType",
	
	"value": " long"
	
	}]
	
	}
		This field configuration can be used to extend an Oracle Utilities customer information system API field that is type long (timestamp), and needs to be rendered in the Work Queue table.
		The same configuration can be used on fields extensionDateField2 and extensionDateField3 to further extend other long (timestamp) type fields.
		By default the value is "" (empty string).

Name: WQ_Default
Keys:
extensionStringField1
extensionStringField2
extensionStringField3
Description:
These fields hold Oracle Utilities customer information system API mapping for new fields that are of data type string.
	Example:
	
	{
	"name":"extensionStringField1", "value": "<<new CCS Field>>"
	}
		This field configuration can be used to extend an Oracle Utilities customer information system API field that is type STRING and needs to be rendered in the Work Queue table. The same configuration can be used on fields extensionStringField2 and extensionStringField3 to further extend other STRING type fields.
		By default the value is "" (empty string).

Customer Experience for Utilities Reference Type Configurations

The **<hostname>/api/utilitiesAdmin/v1/<ReferenceTypeName>** is a REST service that is available to *access* administrative reference type information for your utility, and **<hostname>/api/CXIPlatformService/v1/CXIReferenceEntity/<ReferenceTypeName>** is the REST service to *manage* these reference types. For example, your host name might be https://xxxxxxxxx.oci.customer-oci.com

The reference types that are used by your utility must be enabled or added in order to properly use the Customer Experience for Utilities solutions.

Before you complete the tasks in this section, you must create an administrative user in Fusion Applications to administer the reference type configurations.

To create an administrative user in Fusion Applications:

1. Log in to your Fusion Applications Security Console as an administrator.

2. Assign the following roles to a user. You can use an existing user or create a new user.

- ORA_UER_UTILITIES_KEY_ACCOUNT_ADMINISTRATOR_JOB
- ORA_UER_UTILITIES_CUSTOMER_SERVICE_ADMINISTRATOR_JOB

After you have created an administrative user, you can:

- Generate the access token
- View, edit or add reference types, which include:
  - Service types
  - Units of measure
  - Standard usage identifiers
  - Premise tree
  - Identifier types
  - County
  - State
- View, edit or add insight information, which includes:
  - Insight Severity
  - Insight Type
  - Insight Group
  - Insight Group Insight Types
  - User Actions
  - Insight Type User Actions

Before you edit or add insight information, you must add the insight groups and insight types that you want to use in your Oracle Utilities customer information system. For additional details, see Configure Your Oracle Utilities System.

In this section:

- View, Edit and Add Reference Types

View, Edit and Add Reference Types

To meet the needs of your utility, you can view and edit existing reference types, or you can add your own reference types.

To view the existing reference types:

- Request URL: <CXIF-host>/api/utilitiesAdmin/v1/<ReferenceTypeName>

  For example, For example, https://xxxxxxxxx.oci.customer-oci.com/api/utilitiesAdmin/v1/<ReferenceTypeName>
- Operation: GET
- Authorization: OAUTH2.0

For instructions on how to find the request URL, see #unique_51/unique_51_Connect_42_section_af5_3rr_42c.

To edit the reference types:

1. Get the response using a GET call.

2. Using the information below, update the configuration and perform a POST operation to the below endpoint with the specified payload.

Request URL: \<hostname\>/api/CXIPlatformService/v1/CXIReferenceEntity/ \<ReferenceTypeName\>

For Example, https://xxxxxxxx.oci.customer-oci.com/api/CXIPlatformService/v1/ CXIReferenceEntity/\<ReferenceTypeName\>

```
Operation: POST

Authorization: OAUTH2.0

Request payload

{

"items": [

{

"operation": "update",

"data": <object for a single record returned from GET in step 1>

}

]

}
```

The following sections describe the available configurations by integration point in CX for Utilities applications.

In this section:

- Service Types
- Units of Measure
- Standard Usage Identifier
- Premise Tree
- Identifier Types
- Country
- State
- Insight Severity
- Insight Types
- Insight Groups
- Insight Group Insight Types
- User Actions
- Insight Type User Actions

Service Types

The following service types are delivered with the solution. You must activate the service types that are associated with your utility, or add additional service types, if necessary.

You also use this configuration to:

- Specify whether a service type is a flat measure (also known as flat fee) service. All service types are delivered inactive with the flat-measure configuration set to false.

- Specify the display order of the service types in charts, tabs, and tables within Account 360.

These service types, and their display order, are delivered with the solution.

- **E:** Electric - Display Order 5

- **G:** Gas - Display Order 10

- **W:** Water - Display Order 15

- **WW:** Waste water - Display Order 20

- **M:** Miscellaneous - Display Order 25

- **RF:** Refuse - Display Order 30

The table below provides additional details on the tasks you need to complete.

Task	Configuration	Comments
Fetch a service type	GET /utilitiesAdmin/v1/serviceType?q=active=false	
	Example:	
	GET https://<hostname>/api/utilitiesAdmin/v1/serviceType?q=active=false	
	A specific service type can be fetched using:	
	GET /utilitiesAdmin/v1/serviceType/{id}	
	Example:	
	GET https://<hostname>/api/utilitiesAdmin/v1/serviceType/E	

Task	Configuration	Comments
Activate a service type	POST /CXIPlatformService/v1/CXIReferenceEntity/serviceType	Complete this task for every service type associated with your utility.
	Example:	You can activate multiple service types together by adding them to the "items" list.
	POST https://\<hostname\>/api/CXIPlatformService/v1/CXIReferenceEntity/serviceType	

```
{

"items": [

{

"operation": "update",

"data": {

"id": "E",

"active": true

}

}

]

}
```

Task	Configuration	Comments

Edit a service type	POST /CXIPlatformService/v1/CXIReferenceEntity/serviceType
	
	Example:
	
	POST https://<hostname>/api/CXIPlatformService/v1/CXIReferenceEntity/serviceType
	
	`{`
	
	`"items": [`
	
	`{`
	
	`"operation": "update",`
	
	`"data": {`
	
	`"id": "E",`
	
	`"color": "#DE7F11",`
	
	`"icon": "oj-ux-ico-outage",`
	
	`"active": true`
	
	`}`
	
	`}`
	
	`]`
	
	`}`
		Multiple service types can be updated together by adding objects to the "items" list.

Task	Configuration	Comments

Edit the display order of a service type	POST /CXIPlatformService/v1/ CXIReferenceEntity/ serviceType
	
	Example:
	
	POST https://\<fabric host>/api/ CXIPlatformService/v1/ CXIReferenceEntity/ serviceType
	
	`{`
	
	`"items": [`
	
	`{`
	
	`"operation": "update",`
	
	`"data": {`
	
	`"id": "<serviceTypeId>",    / /ervice type ID like 'E', 'G', 'W', etc`
	
	`"displayOrder": <number>    // newly introduced config`
	
	`}`
	
	`}`
	
	`]`
	
	`}`	

Task	Configuration	Comments

Create a new service type	POST /CXIPlatformService/v1/CXIReferenceEntity/serviceType
	Example:
	POST https://<hostname>/api/CXIPlatformService/v1/CXIReferenceEntity/serviceType
	
	``
	{
	
	"items": [
	
	{
	
	"operation": "create",
	
	"data": {
	
	"id": "O",
	
	"code": "O",
	
	"color": "#83401E",
	
	"icon": "oj-ux-ico-configurator",
	
	"active": true,
	
	"description": "ORA_UER_SERVICE_TYPE_O"
	 //Lookup Code
	
	}
	
	}
	
	]
	
	}
	``
		Oracle recommends using the same value for 'id' and 'code'.
		
		Also, 'description' is a translatable field, so the value should be the relevant lookup code created under the lookup type ORA_UER_SERVICE_TYPE.
		
		Multiple service types can be created together by adding more objects to the "items" list.
		
		For additional information on Lookups, see Profile Options, Lookups, and Scheduled Processes in the Implementing Customer Data Management for Sales and Fusion Service Guide.

Task	Configuration	Comments

Set a service type as a flat-measure service	POST /CXIPlatformService/v1/ CXIReferenceEntity/ serviceType
	
	Example:
	
	POST https://<fabric host>/api/ CXIPlatformService/v1/ CXIReferenceEntity/ serviceType
	
	`{`
	
	`"items": [`
	
	`{`
	
	`"operation": "update",`
	
	`"data": {`
	
	`"id": "<serviceTypeId>",    // / service type ID like 'E', 'G', 'W', etc`
	
	`"isFlatMeasure": true`
	
	`}`
	
	`}`
	
	`]`
	
	`}`
		For any service types that are flat-fee or flat-measure services, set the isFlatMeasure configuration to true.
		
		This option works in conjunction with the ORA_UER_DISABLE_SERVICE_CONTRACT_LINK profile option.

Units of Measure

You must activate the units of measure that are associated with your utility, or add additional units of measure, if necessary. You can also update the display order of the units of measure. All units of measure are delivered inactive.

The following units of measure, and specified display order, are delivered with the solution.

Service Type	Unit of Measure	Display Order
Electric	**KW:** Kilowatts	5
Electric	**KWH:** Kilowatt Hours	10
Electric	**MWH:** Megawatt Hours	15
Gas	**CCF:** Hundred Cubic Feet	5
Gas	**TH:** Thermal Units	10
Water	**GAL:** Gallons	5

The table below provides additional details on the tasks you need to complete.

Task	Configuration	Comments
Fetch a unit of measure	GET /utilitiesAdmin/v1/unitOfMeasure?q=active=false **Example:** GET https://<hostname>/api/utilitiesAdmin/v1/unitOfMeasure?q=active=false A specific unit of measure record can be fetched using: GET /utilitiesAdmin/v1/unitOfMeasure/{id} **Example:** GET https://<hostname>/api/utilitiesAdmin/v1/unitOfMeasure/KW	

Activate a unit of measure	POST /CXIPlatformService/v1/CXIReferenceEntity/unitOfMeasure
	Example:
	POST https://<hostname>/api/CXIPlatformService/v1/CXIReferenceEntity/unitOfMeasure
	
	`{`
	`"items": [`
	`{`
	`"operation": "update",`
	`"data": {`
	`"id": "KW",`
	`"active": true`
	`}`
	`}`
	`]`
	`}`
		Complete this task for every unit of measure associated with your utility.
		
		Multiple units of measure can be activated together by adding more of them to the "items" list.

Task	Configuration	Comments

Edit a unit of measure	POST /CXIPlatformService/v1/ CXIReferenceEntity/ unitOfMeasure
	
	Example:
	
	POST https://<hostname>/api/ CXIPlatformService/v1/ CXIReferenceEntity/ unitOfMeasure
	
	`{`
	
	`"items": [`
	
	`{`
	
	`"operation": "update",`
	
	`"data": {`
	
	`"id": "KW",`
	
	`"serviceType": "E",`
	
	`"active": true`
	
	`}`
	
	`}`
	
	`]`
	
	`}`
		Multiple units of measure can be edited together by adding more of them to the "items" list.

Task	Configuration	Comments

Edit the display order of a unit of measure	POST /CXIPlatformService/v1/ CXIReferenceEntity/ unitOfMeasure
	
	Example:
	
	POST https://<fabric host>/api/ CXIPlatformService/v1/ CXIReferenceEntity/ unitOfMeasure
	
	`{`
	
	`"items": [`
	
	`{`
	
	`"operation": "update",`
	
	`"data": {`
	
	`"id": "<unit of measure>",           /`
	`/ unit of measure such as KW, CCF, etc`
	
	`"serviceType": "<serviceTypeId>",     /`
	`/ the service type associated with the unit of measure`
	
	`"displayOrder": <number>              //`
	` newly introduced config`
	
	`}`
	
	`}`
	
	`]`
	
	`}`	

Task	Configuration	Comments

Create a new unit of measure	POST /CXIPlatformService/v1/ CXIReferenceEntity/ unitOfMeasure
	
	Example:
	
	POST https://<hostname>/api/ CXIPlatformService/v1/ CXIReferenceEntity/ unitOfMeasure
	
	`{`
	
	`"items": [`
	
	`{`
	
	`"operation": "create",`
	
	`"data": {`
	
	`"id": "CF",`
	
	`"code": "CF",`
	
	`"active": true,`
	
	`"description": "ORA_UER_UOM_CF", // Lookup Code`
	
	`"serviceType": "G"`
	
	`}`
	
	`}`
	
	`]`
	
	`}`
		Oracle recommends using the same value for 'id' and 'code'.
		
		Also, 'description' is a translatable field, so the value should be the relevant lookup code created under the lookup type ORA_UER_UOM.
		
		Multiple units of measure can be created together by adding more of them to the "items" list.
		
		For additional information on Lookups, see Profile Options, Lookups, and Scheduled Processes in the Implementing Customer Data Management for Sales and Fusion Service Guide.

Standard Usage Identifier

The following standard usage identifiers are delivered with the solution. Each usage identifier is associated with a unit of measure. You must activate the identifiers along with the units of measure that are associated with your utility, or add additional identifiers, if necessary. You can also change the colors associated with each entry to match your utility branding colors. All standard usage identifiers are delivered inactive.

Code	Description	Associated Unit of Measure
KWH--	Kilowatt Hour	KWH
KWH-ON-	Kilowatt Hour - Peak	KWH

Code	Description	Associated Unit of Measure
KWH-OFF-	Kilowatt Hour - Off-peak	KWH
KWH-MID-	Kilowatt Hour - Mid	KWH
KW--	Kilowatt	KW
TH--	Therm	TH
GAL--	Gallons	GAL

The table below provides additional details on the tasks you need to complete.

Task	Configuration	Comments
Fetch a standard usage identifier	GET /utilitiesAdmin/v1/standardUsageIdentifier?q=active=true **Example:** GET https://<hostname>/api/utilitiesAdmin/v1/standardUsageIdentifier?q=active=true A specific identifier can be fetched using: GET /utilitiesAdmin/v1/standardUsageIdentifier/{id} **Example:** GET https://<hostname>/api/utilitiesAdmin/v1/standardUsageIdentifier/KW--	

Task	Configuration	Comments
Activate a standard usage identifier	POST /CXIPlatformService/v1/ CXIReferenceEntity/ standardUsageIdentifier	Complete this task for every standard usage identifier associated with your utility.
	Example:	Multiple standard usage identifier can be activated together by adding them to the "items" list.
	POST https://\<hostname>/api/ CXIPlatformService/v1/ CXIReferenceEntity/ standardUsageIdentifier	

```
{

"items": [

{

"operation": "update",

"data": {

"id": "KWH--",

"active": true

}

}

]

}
```

Task	Configuration	Comments

Edit a standard usage identifier	POST /CXIPlatformService/v1/ CXIReferenceEntity/ standardUsageIdentifier
	
	Example:
	
	POST https://<hostname>/api/ CXIReferenceEntity/v1/ CXIReferenceEntity/ standardUsageIdentifier
	
	`{`
	
	`"items": [`
	
	`{`
	
	`"operation": "update",`
	
	`"data": {`
	
	`"id": "KW--",`
	
	`"color": "#DE7F11",`
	
	`"unitOfMeasure": "KW",`
	
	`"active": true`
	
	`}`
	
	`}`
	
	`]`
	
	`}`
		Multiple standard usage identifier can be edited together by adding them to the "items" list.

Task	Configuration	Comments
Create a new standard usage identifier	POST /CXIPlatformService/v1/ CXIReferenceEntity/ standardUsageIdentifier	Oracle recommends using the same value for 'id' and 'usageIdentifier'.
	Example: POST https://<hostname>/api/ CXIPlatformService/v1/ CXIReferenceEntity/ standardUsageIdentifier	Also, 'description' is a translatable field, so the value should be the relevant lookup code created under the lookup type ORA_UER_USAGE_IDENTIFIER.
	``` { "items": [{ "operation": "create", "data": { "id": "KL--", "usageIdentifier": "KL--", "color": "#DE7F11", "unitOfMeasure": "KL", "active": true, "description": "ORA_UER_USAGE_IDENT_KL_ ON" // Lookup Code } }] } ```	Multiple standard usage identifier can be created together by adding them to the "items" list. For additional information on Lookups, see Profile Options, Lookups, and Scheduled Processes in the Implementing Customer Data Management for Sales and Fusion Service Guide.

Premise Tree

The premise tree displays a hierarchical list of the components within a premise. You must also identify the URL associated with your premise tree. The following premise tree components are delivered with the solution.

- **ASSOC_ACCT:** oj-ux-ico-file
- **COMPONENT:** oj-ux-ico-chart-bar
- **DEVICE:** oj-ux-ico-odometer

- **METER:** oj-ux-ico-odometer

- **PREMISE:** oj-ux-ico-city

- **SPCOMP:** oj-ux-ico-chart-bar

- **SPDEV:** oj-ux-ico-odometer

- **SVC_CONT:** oj-ux-ico-outage

- **SVC_POINT:** oj-ux-ico-location-pin

- **treeName:** C1-CX-PremiseTree

- **UNLINK_SP:** oj-ux-ico-location-pin

- **HIST_PREM:** oj-ux-ico-city

- **HIST_PREMS:** oj-ux-ico-city

- **TRANSFORMER:** oj-ux-ico-timeline

- **FEEDER:** oj-ux-ico-divert

- **SUBSTATION:** oj-ux-ico-industry

The table below provides additional details on the tasks you need to complete.

Task	Configuration	Comments
Fetch a premise tree record	GET /utilitiesAdmin/v1/ premiseTree **Example:** GET https://<hostname>/api/ utilitiesAdmin/v1/premiseTree A specific premise tree record can be fetched using: GET /utilitiesAdmin/v1/ premiseTree/{id} **Example:** GET https://<hostname>/api/ utilitiesAdmin/v1/premiseTree/ PREMISE	

Task	Configuration	Comments

Specify your URL	POST /CXIPlatformService/v1/ CXIReferenceEntity/ premiseTree
	
	Example:
	
	POST https://<hostname>/api/ CXIPlatformService/v1/ CXIReferenceEntity/ premiseTree
	
	`{`
	
	`"items": [`
	
	`{`
	
	`"operation": "create",`
	
	`"data": {`
	
	`"id": "premiseViewInCISUrl",`
	
	`"name": "premiseViewInCISUrl",`
	
	`"value": "https:// <server>:<port>/ <context>/ccs/web/ cis.jsp?script=C1- CCByAcct&ACCT ID={{accountId}}"`
	
	`}`
	
	`}`
	
	`]`
	
	`}`
		Oracle recommends using the same value for 'id' and 'name'.

Task	Configuration	Comments

Edit a URL	POST /CXIPlatformService/v1/ CXIReferenceEntity/ premiseTree
	Example:
	POST https://<hostname>/api/ CXIPlatformService/v1/ CXIReferenceEntity/ premiseTree
	
	`{`
	
	`"items": [`
	
	`{`
	
	`"operation": "update",`
	
	`"data": {`
	
	`"id": "premiseViewInCISUrl",`
	
	`"name": "premiseViewInCISUrl",`
	
	`"value": "https:// <server>:<port>/ <context>/ccs/web/ cis.jsp?script=C1- CCByAcct&ACCT ID={{accountId}}"`
	
	`}`
	
	`}`
	
	`]`
	
	`}`
		Oracle recommends using the same value for 'id' and 'name'.
		Multiple premise tree records can be edited together by adding them to the "items" list.

Task	Configuration	Comments

Delete a URL	POST /CXIPlatformService/v1/ CXIReferenceEntity/ premiseTree
	
	Example:
	
	POST https://<hostname>/api/ CXIPlatformService/v1/ CXIReferenceEntity/ premiseTree
	
	`{`
	
	`"items": [`
	
	`{`
	
	`"operation": "delete",`
	
	`"data": {`
	
	`"id": "premiseViewInCISUrl"`
	
	`}`
	
	`}`
	
	`]`
	
	`}`	

Task	Configuration	Comments

Add inactive node type for premise	POST /CXIPlatformService/v1/CXIReferenceEntity/premiseTree
	
	`{`
	
	`"items": [`
	
	`{`
	
	`"operation": "create",`
	
	`"data":{`
	
	`"name": "HIST_PREM",`
	
	`"id": "HIST_PREM",`
	
	`"value": "oj-ux-ico-city"`
	
	`}`
	
	`},`
	
	`{`
	
	`"operation": "create",`
	
	`"data":{`
	
	`"name": " HIST_PREMS",`
	
	`"id": " HIST_PREMS",`
	
	`"value": " oj-ux-ico-city "`
	
	`}`
	
	`}`
	
	`]`
	
	`}`	

Identifier Types

Use identifier types to specify the fields that are used to identify your utility customers. By default, no data is seeded or delivered with the solution. You must add your identifier types based on the identifier types added in your Oracle Utilities customer information system.

When you add your identifier types, the format that you use is displayed as helper text in the Search bar of the Person and Premise Search tab. This helper text enables your users to know what format they need to use when searching for a person or premise. For example, you might enter xxx-xx-xxxx as the format for a Social Security Number.

The table below provides additional details on the tasks you need to complete.

Task	Configuration	Comments

Activate an identifier type	Each identifier type has to be activated, which are to be made active. To activate more records, add the additional identifier types in the payload.
	
	POST /CXIPlatformService/v1/CXIReferenceEntity/identifierType
	
	Example:
	https://<hostname>/api/CXIPlatformService/v1/CXIReferenceEntity/identifierType
	
	`{`
	
	`"items": [`
	
	`{`
	
	`"operation": "update",`
	
	`"data": {`
	
	`"id": "SSN",`
	
	`"active": true`
	
	`}`
	
	`}`
	
	`]`
	
	`}`	

Task	Configuration	Comments

Add an identifier type	You can add multiple identifier types to the payload, as needed.
	
	POST /CXIPlatformService/v1/CXIReferenceEntity/identifierType
	
	Example:
	
	``json
	{
	
	"items": [
	
	{
	
	"operation": "create",
	
	"data": {
	
	"code": "SS",
	
	"format": "xx-xxxx",
	
	"active": true,
	
	"shortLabel": "Social Security No",
	
	"id": "SS"
	
	}
	
	}
	
	]
	
	}
	``
	
	POST https://<hostname>/api/CXIPlatformService/v1/CXIReferenceEntity/identifierType
		Multiple records can be added together by adding them to the "items" list in the request.

Task	Configuration	Comments

Edit an identifier type	POST /CXIPlatformService/v1/ CXIReferenceEntity/ identifierType
	
	Example:
	
	POST https://<hostname>/api/ CXIPlatformService/v1/ CXIReferenceEntity/ identifierType
	
	`{`
	
	`"items": [`
	
	`{`
	
	`"operation": "update",`
	
	`"data": {`
	
	`"id": "SSN",`
	
	`"active": true`
	
	`}`
	
	`}`
	
	`]`
	
	`}`
		Multiple records can be edited at the same time by adding them to the "items" list in the request.

Task	Configuration	Comments
Fetch identifier types	GET /utilitiesAdmin/v1/ identifierType?q=active=true **Example:** GET https://<hostname>/api/ utilitiesAdmin/v1/ identifierType?q=active=true A specific identifier type can be fetched using this example: **Example:**	

```
{

"offset": 0,

"limit": 25,

"count": 3,

"hasMore": false,

"items": [

{

"code": "PIN",

"format": "x-xxx-xxx-
xxx-xxx",

"active": true,

"description":
"Personal ID number",

"shortLabel": "PIN",

"id": "PIN"

},

{

"code": "SSN",

"format": "xx-xxxx",

"active": true,

"description": "Social
Security No",

"shortLabel": "ssn",
```

Task	Configuration	Comments
	`"id": "SSN"`	
	`}`	
	`]`	
	`}`	

Country

Use the country codes to specify the countries in which your utility operates. You can specify one or more countries.

The country **US**, and all associated states, are delivered with the solution.

The table below provides additional details on the tasks you need to complete.

Task	Configuration	Comments
Add all needed country records	POST /api/CXIPlatformService/v1/CXIReferenceEntity/country	Oracle recommends using the same value for 'id' and 'faValue' in the request.
	Example: POST https://<hostname>/api/CXIPlatformService/v1/CXIReferenceEntity/country	Multiple country records can be added together by adding them to the "items" list in the request.
	`{`	
	`"items": [`	
	`{`	
	`"operation": "create",`	
	`"data": {`	
	`"id": "UK",`	
	`"faValue": "UK",`	
	`"cisValue": "United Kingdom"`	
	`}`	
	`}`	

Task	Configuration	Comments

Edit a country record	POST /CXIPlatformService/v1/CXIReferenceEntity/country
	
	Example:
	
	POST https://<hostname>/api/CXIPlatformService/v1/CXIReferenceEntity/country
	
	{
	
	"items": [
	
	{
	
	"operation": "update",
	
	"data": {
	
	"id": "UK",
	
	"faValue": "UK",
	
	"cisValue": "United Kingdom"
	
	}
	
	}
		Multiple country records can be added at the same time by adding them to the "items" list in the request.

Delete a country record	POST /CXIPlatformService/v1/CXIReferenceEntity/country
	
	Example:
	
	POST https://<hostname>/api/CXIPlatformService/v1/CXIReferenceEntity/country
	
	{
	
	"items": [
	
	{
	
	"operation": "delete",
	
	"data": {
	
	"id": "UK"
	
	}
	
	}
		Multiple country records can be deleted at the same time by adding them to the "items" list in the request.

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Task	Configuration	Comments
Fetch country records	GET /utilitiesAdmin/v1/country **Example:** GET https://\<hostname\>/api/utilitiesAdmin/v1/country A specific country record can be fetched using: GET /utilitiesAdmin/v1/country/{id} **Example:** GET https://\<hostname\>/api/utilitiesAdmin/v1/country/US	

State

Use the state codes to specify the states in which your utility operates. You can specify one or more states as children of the country the belong to.

The table below provides additional details on the tasks you need to complete.

Task	Configuration	Comment
Add all needed state records	POST /api/CXIPlatformService/v1/CXIReferenceEntity/country/{id}/child/state Here, {id} is the country to which states should be added. **Example:** POST https://<hostname>/api/CXIPlatformService/v1/CXIReferenceEntity/country/US/child/state	Oracle recommends using the same value for 'id' and 'faValue' in the request.

```
{

"items": [

{

"operation": "create",

"data": {

"id": "Alabama",

"faValue": "Alabama",

"cisValue": "AL"

}

},            {

"operation": "create",

"data": {

"id": "Alaska",

"faValue": "Alaska",

"cisValue": "AK"

}

}

]

}
```

Task	Configuration	Comment

Edit a state record	POST /CXIPlatformService/v1/ CXIReferenceEntity/country/ {id}/child/state
	
	Here, {id} is the country associated with the state you are editing.
	
	Example:
	
	POST https://<hostname>/api/ CXIPlatformService/v1/ CXIReferenceEntity/ country/US/child/state
	
	{
	
	"items": [
	
	{
	
	"operation": "update",
	
	"data": {
	
	"id": "Alabama",
	
	"faValue": "Alabama",
	
	"cisValue": "AL"
	
	}
	
	}
	
	]
	
	}
		Multiple state records can be edited together by adding them to the "items" list in the request.

Task	Configuration	Comment

Delete a state record	POST /CXIPlatformService/v1/CXIReferenceEntity/country/{id}/child/state
	
	Here, {id} is the country associated with the state you are deleting.
	
	Example:
	
	POST https://<hostname>/api/CXIPlatformService/v1/CXIReferenceEntity/country/US/child/state
	
	{
	
	"items": [
	
	{
	
	"operation": "delete",
	
	"data": {
	
	"id": "Alabama"
	
	}
	
	}
	
	]
	
	}
		Multiple state records can be deleted together by adding them to the "items" list in the request.

Fetch state records	GET /utilitiesAdmin/v1/country/{id}/child/state Here {id} is the id of country associated with the states being fetched. **Example:** GET https://<hostname>/api/utilitiesAdmin/v1/country/US/child/state A specific state record can be fetched using: GET /utilitiesAdmin/v1/country/{id}/child/state/{childid} **Example:** GET https://<hostname>/api/utilitiesAdmin/v1/country/US/child/state/Alabama	

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Insight Severity

The following insight severity records are delivered with the solution. You can modify these values or add new values as needed, using the information below. All records are delivered inactive.

> **✎ Note:**
>
> You can now manage insight severity records using the information below, or using the Functional Setup Manager interface. See Manage Insight Severity with Functional Setup Manager for additional information.

Severity	Default Style	Active	Description	Rank	ID
F1IN	info	false	Information	30	F1IN
F1WN	warning	false	Warning	20	F1WN
F1ER	error	false	Critical	10	F1ER

This table provides additional details on the tasks you can complete.

> **✎ Note:**
>
> Be aware that `description` is a translatable field, so the description values should be maintained in the relevant lookup code created under the lookup type ORA_UER_ INSIGHT_ SEVERITY if your implementation requires more than one language.

Task	Configuration
Fetch insight severity	GET /utilitiesAdmin/v1/insightSeverity
	Example:
	GET https://<hostname>/api/utilitiesAdmin/v1/insightSeverity
	A specific insight severity can be fetched using:
	GET /utilitiesAdmin/v1/insightSeverity/{id}
	Example:
	GET https://<hostname>/api/utilitiesAdmin/v1/insightSeverity/F1IN

Task	Configuration
Edit insight severity	POST /CXIPlatformService/v1/CXIReferenceEntity/insightSeverity

Example:

POST https://<hostname>/api/CXIPlatformService/v1/CXIReferenceEntity/insightSeverity

```
{

"items": [

{

"operation": "update",

"data": {

"id": "F1ER",

"defaultStyle": "error",

"active": true

}

}

]

}
```

You can also update multiple records in the same request.

Example:

```
{

"items": [

{

"operation": "update",

"data": {

"id": "F1ER",

"defaultStyle": "error",

"active": true

}
```

Task	Configuration
	`},`
	`{`
	`"operation": "update",`
	`"data": {`
	`"id": "F1IN",`
	`"defaultStyle": "info",`
	`"active": true`
	`}`
	`}`
	`]`
	`}`

Task	Configuration

Create new insight severity	POST /CXIPlatformService/v1/CXIReferenceEntity/insightSeverity
	Example:
	POST https://<hostname>/api/CXIPlatformService/v1/CXIReferenceEntity/insightSeverity
	
	`{`
	
	`"items": [`
	
	`{`
	
	`"operation": "create",`
	
	`"data": {`
	
	`"defaultStyle": "error",`
	
	`"active": true,`
	
	`"rank": 30,`
	
	`"id": "CRIT",`
	
	`"description": "ORA_UER_INSIGHT_SEV_CRIT" //Lookup Code`
	
	`}`
	
	`}`
	
	`]`
	
	`}`
	
	You can create multiple records in the same request.
	Example:
	
	`{`
	
	`"items": [`
	
	`{`
	
	`"operation": "create",`
	
	`"data": {`
	
	`"defaultStyle": "error",`

Task	Configuration
| | ```
"active": true,

"rank": 30,

"id": "CRIT",

"description":
"ORA_UER_INSIGHT_SEV_CRIT" //Lookup
Code

}

},

{

"operation": "create",

"data": {

"defaultStyle": "error",

"active": true,

"rank": 40,

"id": "DRIT",

"description":
"ORA_UER_INSIGHT_SEV_DRIT" //Lookup
Code

}

}

]

}
``` |

Insight Types

The following insight types are delivered with the solution. You can modify these values or add new values as needed, using the information below. All records are delivered inactive.

> **Note:**
>
> You can now manage insight type records using the information below, or using the Functional Setup Manager interface. See Manage Insight Types with Functional Setup Manager for additional information.

Source System	Description	Active	Rank	ID
CCS	Unpaid Account for Person	false	10	C1-PER-NONPAY-CARD
CCS	Account Past Due	false	10	C1-ACCT-PASTDUE-CARD
CCS	Account Collection Active Card	false	20	C1-ACCT-COLL-CARD
CCS	Account Pay Agreement Card	false	30	C1-ACCT-PAYAGREE-CARD
CCS	Account Severance Active Card	false	10	C1-ACCT-SEV-CARD
CX	Contract Renewal This insight uses the CONTRACT_RENEWAL_ALG insight algorithm.	false	5	CONTRACT_RENEWAL
CCS	ORA_UER_INACTIVE_ACCOUNT	false	10	C1-INACTIVE-ACCT-CARD
CCS	Account in Active Collections	false	20	C1-PER-COLL-CARD
CCS	Autopay Enrollment	false	10	C1-APAYENRL-LIST
CCS	Budget Billing Enrollment	false	10	C1-BUDGENRL-LIST
CCS	E-Bill Enrollment	false	10	C1-EBILLENRL-LIST
CCS	Prepaid Billing Enrollment	false	10	C1-PBILLENRL-LIST
CCS	Account Web Enrollment	false	10	C1-WEBENRL-LIST

This table provides additional details on the tasks you can complete.

> **Note:**
>
> Be aware that `description` is a translatable field, so the description values should be maintained in the relevant lookup code created under the lookup type ORA_UER_INSIGHT_TYPE if your implementation requires more than one language.

Task	Configuration
Fetch insight type	GET /utilitiesAdmin/v1/insightType
	Example:
	GET https://<hostname>/api/utilitiesAdmin/v1/ insightType
	A specific insight type can be fetched using:
	GET /utilitiesAdmin/v1/insightType/{id}
	Example:
	GET https://<hostname>/api/utilitiesAdmin/v1/ insightType/C1-ACCT-PASTDUE-CARD

Task	Configuration
Activate insight type	POST /CXIPlatformService/v1/CXIReferenceEntity/insightType
	One or more insight type can be activated at once.
	Example:
	POST https://<hostname>/api/CXIPlatformService/v1/CXIReferenceEntity/insightType

```
{

"items": [

{

"operation": "update",

"data": {

"id": "C1-ACCT-PASTDUE-CARD",

"active": true

}

},

{

"operation": "update",

"data": {

"id": "CCS",

"active": true

}

}

]

}
```

Task	Configuration
Edit an insight type	POST /CXIPlatformService/v1/CXIReferenceEntity/insightType One or more insight type can be updated at once. **Example:** POST https://<hostname>/api/CXIPlatformService/v1/CXIReferenceEntity/insightType

```
{

"items": [

{

"operation": "update",

"data": {

"id": "C1-ACCT-PASTDUE-CARD",

"sourceSystem": "CCS",

"active": true

}

},

{

"operation": "update",

"data": {

"id": "C1-PER-NONPAY-CARD",

"sourceSystem": "CCS",

"active": true

}

}

]

}
```

Task	Configuration
Create insight type	POST /CXIPlatformService/v1/CXIReferenceEntity/insightType One or more insight type can be created at once. **Example:** POST https://<hostname>/api/CXIPlatformService/v1/CXIReferenceEntity/insightType

```
{

"items": [

{

"operation": "create",

"data": {

"id": "C1-PER-NONPAY-CARD",

"sourceSystem": "CCS",

"active": false,

"rank": 10,

"description":
"ORA_UER_PER_NONPAY" //Lookup Code

}

},

{

"operation": "create",

"data": {

"id": "C1-ACCT-PASTDUE-CARD",

"sourceSystem": "CCS",

"active": false,

"rank": 10,

"description":
"ORA_UER_ACCOUNT_PAST_DUE" //Lookup
Code

}
```

Task	Configuration
	`}`
	`]`
	`}`

Insight Groups

The following insight groups are delivered with the solution. You can modify these values or add new values as needed, using the information below. All insight group records are delivered inactive.

> **Note:**
>
> You can now manage insight group records using the information below, or using the Functional Setup Manager interface. See Manage Insight Groups with Functional Setup Manager for additional information.

Description	ID
Billing accounts insight	C1XA
Business insights	C1XP
Customer Dashboard Agent Insights	C1XC
Program Enrollment Insights	C1PE

This table provides additional details on the tasks you can complete.

> **Note:**
>
> Be aware that `description` is a translatable field, so the description values should be maintained in the relevant lookup code created under the lookup type ORA_UER_INSIGHT_GROUP if your implementation requires more than one language.

Task	Configuration
Fetch insight group	GET /utilitiesAdmin/v1/insightGroup
	Example:
	GET https://<hostname>/api/utilitiesAdmin/v1/insightGroup
	A specific insight type can be fetched using:
	GET /utilitiesAdmin/v1/insightGroup/{id}
	Example:
	GET https://<hostname>/api/utilitiesAdmin/v1/insightGroup/C1XA

Task	Configuration
Edit insight group	POST /CXIPlatformService/v1/CXIReferenceEntity/insightGroup

Example:

POST https://<hostname>/api/CXIPlatformService/v1/CXIReferenceEntity/insightGroup

```
{

"items": [

{

"operation": "update",

"data": {

"id": "C1XA",

"description":
"ORA_UER_BILLING_ACC_INS_GRP" //
Lookup Code

}

}

]

}
```

Task	Configuration
Create a new insight group	POST /CXIPlatformService/v1/CXIReferenceEntity/insightGroup
	Example:
	POST https://<hostname>/api/CXIPlatformService/v1/CXIReferenceEntity/insightGroup
	{
	"items": [
	{
	"operation": "create",
	"data": {
	"id": "C1XA",
	"description": "ORA_UER_BILLING_ACC_INS_GRP" // Lookup Code
	}
	}
	]
	}

Insight Group Insight Types

The following insight group insight types are delivered with the solution. You can modify these values or add new values as needed, using the information below. All records are delivered inactive.

> **Note:**
>
> You can now manage insight group insight type records using the information below, or using the Functional Setup Manager interface. See Manage Insight Group Insight Types with Functional Setup Manager for additional information.

insightGroup	ID	insightType
C1XP	C1XP_C1PERNONPAYCARD	C1-PER-NONPAY-CARD
C1XA	C1XA_C1ACCTPASTDUECARD	C1-ACCT-PASTDUE-CARD
C1XC	C1XC_C1COLLCARD	C1-ACCT-COLL-CARD
C1XC	C1XC_C1PAYAGREECARD	C1-ACCT-PAYAGREE-CARD

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insightGroup	ID	insightType
C1XC	C1XC_C1SEVCARD	C1-ACCT-SEV-CARD
C1XA	C1XA_CONTRACT_RENEWAL	CONTRACT_RENEWAL
C1XP	C1XP_CONTRACT_RENEWAL	CONTRACT_RENEWAL
C1XA	C1XA_C1INACTIVEACCTCARD	C1-INACTIVE-ACCT-CARD
C1XP	C1XP_C1-PER-COLL-CARD	C1-PER-COLL-CARD
C1XA	C1XA_C1-ACCT-COLL-CARD	C1-ACCT-COLL-CARD
C1PE	C1PE_C1APAYENRLLIST	C1-APAYENRL-LIST
C1PE	C1PE_C1BUDGENRLLIST	C1-BUDGENRL-LIST
C1PE	C1PE_C1EBILLENRLLIST	C1-EBILLENRL-LIST
C1PE	C1PE_C1PBILLENRLLIST	C1-PBILLENRL-LIST
C1PE	C1PE_C1WEBENRLLIST	C1-WEBENRL-LIST

This table provides additional details on the tasks you can complete:

Task	Configuration
Fetch insight grouping	GET /utilitiesAdmin/v1/ insightGroupInsightTypes **Example:** GET https://<hostname>/api/utilitiesAdmin/v1/ insightGroupInsightTypes A specific insight type can be fetched using: GET /utilitiesAdmin/v1/ insightGroupInsightTypes/{id} **Example:** GET https://<hostname>/api/utilitiesAdmin/v1/ insightGroupInsightTypes/ C1XP_C1PERNONPAYCARD

Task	Configuration
Edit insight grouping	POST /CXIPlatformService/v1/ CXIReferenceEntity/insightGroupInsightTypes

Example:

POST https://<hostname>/api/ CXIPlatformService/v1/CXIReferenceEntity/ insightGroupInsightTypes

```
{

"items": [

{

"operation": "update",

"data": {

"id": "C1XP_C1PERNONPAYCARD",

"insightGroup": "C1XP",

"insightType": "C1-PER-NONPAY-CARD"

}

}

]

}
```

Task	Configuration

Create insight grouping	POST /CXIPlatformService/v1/CXIReferenceEntity/insightGroupInsightTypes
	Example:
	POST https://<hostname>/api/CXIPlatformService/v1/CXIReferenceEntity/insightGroupInsightTypes
	
	{
	
	"items": [
	
	{
	
	"operation": "create",
	
	"data": {
	
	"id": "C1XP_C1PERNONPAYCARD",
	
	"insightGroup": "C1XP",
	
	"insightType": "C1-PER-NONPAY-CARD"
	
	}
	
	}
	
	]
	
	}

User Actions

The following user actions are delivered with the solution. Review the values to determine whether you have the user actions you need for your implementation. You can modify these values or add new values as needed using the APIs. All user actions are delivered as inactive.

ID	Active	Description	Rank
ACTION_VIEW_BILL_ACC_DET	false	Navigate to Billing tab in Account 360.	10
ACTION_VIEW_OPTY	false	Navigate to Opportunity Detail page in Oracle Fusion.	10
ACTION_VIEW_COLL_PROC	false	Navigate to the collection process.	10
ACTION_VIEW_CUT_PROC	false	Navigate to the cut process.	10
ACTION_VIEW_OD_PROC	false	Navigate to the overdue process.	10

ID	Active	Description	Rank
ACTION_VIEW_PAY_AG REE	false	Navigate to the payment agreement.	10
ACTION_VIEW_SA	false	Navigate to the service agreement.	10
ACTION_VIEW_SEV_PR OC	false	Navigate to the severance process.	10
ACTION_VIEW_BUDG_ ENRL_DET	true	Navigate to drawer for enrollment in budget billing.	10
ACTION_VIEW_EBILL_ ENRL_DET	true	Navigate to drawer for enrollment in E-bill.	10
ACTION_VIEW_COLL_S R	false	Navigate to collections service requests.	20

This table provides additional details on the tasks you can complete.

> **Note:**
>
> Be aware that `description` is a translatable field, so the description values should be maintained in the relevant lookup code created under the lookup type ORA_UER_USER_ACTION_DESC if your implementation requires more than one language.

Task	Configuration
Fetch user action	GET /utilitiesAdmin/v1/userAction
	Example:
	GET https://<hostname>/api/utilitiesAdmin/v1/ userAction
	A specific insight type can be fetched using:
	GET /utilitiesAdmin/v1/userAction/{id}
	Example:
	GET https://<hostname>/api/utilitiesAdmin/v1/ userAction/ACTION_VIEW_BILL_ACC_DET

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Task	Configuration
Activate user action	POST /CXIPlatformService/v1/CXIReferenceEntity/userAction

Example:

POST https://<hostname>/api/CXIPlatformService/v1/CXIReferenceEntity/userAction

Sample body:

```
{

"items": [

{

"operation": "update",

"data": {

"id": "ACTION_VIEW_BILL_ACC_DET",

"active": true

}

}

]

}
```

This payload can have one or multiple items, as needed.

Task	Configuration
Edit user action	PATCH /CXIPlatformService/v1/CXIReferenceEntity/userAction
	Example:
	PATCH https://<hostname>/api/CXIPlatformService/v1/CXIReferenceEntity/userAction
	Sample body:

```
{

"items": [

{

"operation": "update",

"data": {

"id": "ACTION_VIEW_BILL_ACC_DET",

"description":
"ORA_UER_ACTION_VIEW_DETAIL"

}

}

]

}
```

This payload can have one or multiple items, as needed.

Task	Configuration
Create new user action	POST /CXIPlatformService/v1/ CXIReferenceEntity/userAction
	Example:
	POST https://<hostname>/api/ CXIPlatformService/v1/CXIReferenceEntity/ userAction
	Sample body:
	{
	"items": [
	{
	"operation": "create",
	"data": {
	"id": "ACTION_VIEW_BILL_ACC_DET",
	"active": true,
	"description": "ORA_UER_ACTION_VIEW_DETAIL"
	}
	}
	]
	}
	This payload can have one or multiple items, as needed.

Insight Type User Actions

The following insight type user actions are delivered with the solution. Review the values to determine if you have the values needed for your implementation. You can modify these values or add new values as needed, using the APIs.

As noted in the table below, the Account 360 collections insights user action to view account debt (ACTION_VIEW_COLL_PROC) should not be enabled to display the Debt Summary drawer unless your Oracle Utilities CIS meets specific versioning requirements, as described in My Oracle Support Document 2876281.1.

User Action	Entity Type	ID	Insight Type
ACTION_VIEW_BILL_A CC_DET	BillingAccount	C1ACCTPASTDUE_VIE W_BA_DET	C1-ACCT-PASTDUE-CARD

User Action	Entity Type	ID	Insight Type
ACTION_VIEW_BILL_ACC_DET	BillingAccount	C1PERNONPAYCARD_VIEW_BA_DET	C1-PER-NONPAY-CARD
ACTION_VIEW_BILL_ACC_DET	BillingAccount	C1XA_C1INACTIVEACCTCARD	C1-INACTIVE-ACCT-CARD
ACTION_VIEW_COLL_PROC	CollectionProcess	C1XCCOLLCARD_VIEW_COLL_PROC	C1-ACCT-COLL-CARD
		See note above regarding versioning requirements.	
ACTION_VIEW_OD_PROC	OverdueProcess	C1XCCOLLCARD_VIEW_OD_PROC	C1-ACCT-COLL-CARD
ACTION_VIEW_PAY_AGREE	PaymentAgreement	C1XCPAYAGREE_VIEW_PA	C1-ACCT-PAYAGREE-CARD
ACTION_VIEW_SA	ServiceAgreement	C1XCPAYAGREE_VIEW_SA	C1-ACCT-PAYAGREE-CARD
ACTION_VIEW_CUT_PROC	CutProcess	C1XCSEVCARD_VIEW_CUT_PROC	C1-ACCT-SEV-CARD
ACTION_VIEW_SEV_PROC	SeveranceProcess	C1XCSEVCARD_VIEW_SEV_PROC	C1-ACCT-SEV-CARD
ACTION_VIEW_COLL_PROC	Organization	C1PERCOLLCARD_VIEW_COLL_PROC	C1-PER-COLL-CARD
		See note above regarding versioning requirements.	
ACTION_VIEW_COLL_SR	Organization	C1PERCOLLCARD_VIEW_COLL_SR	C1-PER-COLL-CARD
ACTION_VIEW_BUDG_ENRL_DET	BillingAccount	C1ACCTBUDGENRL_VIEW_BA_DET	C1-BUDGENRL-LIST
ACTION_VIEW_EBILL_ENR_DET	BillingAccount	C1ACCTEBILLENRL_VIEW_BA_DET	C1-EBILLENRL-LIST

This table provides additional details on the tasks you can complete:

Task	Configuration
Fetch insight type user action	GET /utilitiesAdmin/v1/insightTypeUserAction
	Example:
	GET https://<hostname>/api/utilitiesAdmin/v1/insightTypeUserAction
	A specific insight type can be fetched using:
	GET /utilitiesAdmin/v1/insightTypeUserAction/{id}
	Example:
	GET https://<hostname>/api/utilitiesAdmin/v1/insightTypeUserAction/C1ACCTPASTDUE_VIEW_BA_DET

Task	Configuration
Edit insight type user action	POST /CXIPlatformService/v1/ CXIReferenceEntity/insightTypeUserAction

Example:

POST https://<hostname>/api/ CXIPlatformService/v1/CXIReferenceEntity/ insightTypeUserAction

Sample body:

```
{

"items": [

{

"operation": "update",

"data": {

"id": "C1ACCTPASTDUE_VIEW_BA_DET",

"userAction":
"ACTION_VIEW_BILL_ACC_DET"

}

}

]

}
```

This payload can have one or multiple items, as needed.

Task	Configuration
Create insight type user action	POST /CXIPlatformService/v1/CXIReferenceEntity/insightTypeUserAction
	Example:
	POST https://<hostname>/api/CXIPlatformService/v1/CXIReferenceEntity/insightTypeUserAction
	Sample body:
	`{`
	`"items": [`
	`{`
	`"operation": "create",`
	`"data": {`
	`"id": "C1ACCTPASTDUE_VIEW_BA_DET",`
	`"userAction": "ACTION_VIEW_BILL_ACC_DET",`
	`"entityType": "BillingAccount",`
	`"insightType": "C1-ACCT-PASTDUE-CARD"`
	`}`
	`}`
	`]`
	`}`
	This payload can have one or multiple items, as needed.

Using Functional Setup Manager to Configure Utility Details

Some setup tasks can be completed using Oracle Functional Setup Manager. Oracle Functional Setup Manager provides an integrated, end-to-end process for functional administrators to manage the implementation and maintenance of Oracle Fusion Applications Cloud.

To use Functional Setup Manager for Customer Experience for Utilities setup tasks, you must first enable the Customer Experience for Utilities offering. Once the offering is enabled, administrators can created, edit, and delete setup records associated with Customer Experience for Utilities features.

For detailed information about Functional Setup Manager, see the Using Functional Setup Manager Guide in Oracle Help Center.

In this section:

- Enable the Functional Setup Manager Offering

- Manage Setup Tasks in Functional Setup Manager

- Import, Export, and Compare Categories Between Environments

Enable the Functional Setup Manager Offering

Before you can complete any Customer Experience for Utilities setup tasks in Oracle Functional Setup Manager, you must enable the Customer Experience for Utilities offering. This task must be completed by an administrator who is assigned to the Key Account Manager Administrator role. If the offering is not enabled, the Customer Experience for Utilities setup tasks are not visible in the interface.

Enable the Offering

To enable the Customer Experience for Utilities offering:

1. Log into Oracle Fusion as a Key Account Manager Administrator.

2. From the menu, select My Enterprise and then select Offerings.

3. On the Offerings screen, select Customer Experience for Utilities.

4. In the Customer Experience for Utilities drawer, click the **Opt In Features** button.

5. On the Opt In screen, select the **Enable** option and then click **Done**.

6. Optionally, you can click the **Setup** icon to access all available setup tasks for the offering. For additional information on completing setup tasks, see Manage Setup Tasks in Functional Setup Manager.

Manage Setup Tasks in Functional Setup Manager

After you enable the Customer Experience for Utilities offering in Functional Setup Manager, you can create, edit and delete setup records using the Functional Setup Manager interface.

The following setup tasks are currently available in the Customer Experience for Utilities offering:

- Manage Insight Types

- Manage Insight Severity

- Manage Insight Groups

- Manage Insight Type Insight Groups

You can access setup tasks directly from the Offerings screen, as described in Enable the Functional Setup Manager Offering, or you can use the steps listed below.

Accessing Setup Tasks in Functional Setup Manager

To access setup tasks in Functional Setup Manager:

1. Log into Oracle Fusion as a Key Account Manager Administrator.

2. From the user menu at the top right, select Setup and Maintenance.

3. On the Setup: Service screen, select Customer Experience for Utilities from the drop down menu in the header. Note, if the option is only available after it has been enabled.

4. On the Setup: Customer Experience for Utilities screen, you can view the list of available setup tasks.

5. Click on a task to create, edit, or delete an associated record. For example, click **Manage Insight Types** to create a new insight type.

In this section:

- Manage Insight Types with Functional Setup Manager
- Manage Insight Severity with Functional Setup Manager
- Manage Insight Groups with Functional Setup Manager
- Manage Insight Group Insight Types with Functional Setup Manager

Manage Insight Types with Functional Setup Manager

You can manage insight types that are displayed in the Customer Experience for Utilities solution using the Mange Insight Types setup task in Functional Setup Manager. You use this tasks to create new insight types and to edit or delete existing insight types.

Create a New Insight Type

To create a new insight type:

1. Complete the steps in Manage Setup Tasks in Functional Setup Manager to access the list of Customer Experience for Utilities setup tasks.

2. Click on the **Manage Insight Types** task.

3. On the Insight Types screen, click the **Create** button.

4. On the Create insight type drawer, complete these required fields, and then click **Create**:

   - **ID:** Specify a user-defined identification code for the insight.
   - **Description:** Specify a description of the insight.
   - **Status:** Select Active or Inactive.
   - **Rank:** Select a rank. The lower the number, the higher the priority of the insight.
   - **Source System:** Select the system that is the source of the insight.

Update an Existing Insight Type

To update an existing insight type:

1. Complete the steps in Manage Setup Tasks in Functional Setup Manager to access the list of Customer Experience for Utilities setup tasks.

2. Click on the **Manage Insight Types** task.

3. On the Insight Types screen, click the **Edit** icon on the insight type you want to update.

4. On the Edit insight type drawer, update the information and then click **Save**.

Delete an Insight Type

To delete an existing insight type:

1. Complete the steps in Manage Setup Tasks in Functional Setup Manager to access the list of Customer Experience for Utilities setup tasks.

2. Click on the **Manage Insight Types** task.

3. On the Insight Types screen, click the **Delete** icon on the insight type you want to delete.

4. On the confirmation screen click **Remove**.

Manage Insight Severity with Functional Setup Manager

You can manage the severity of the insights that are displayed in the Customer Experience for Utilities solution using the Mange Insight Severity setup task in Functional Setup Manager. You use this tasks to create new insight severity records and to edit or delete existing insight severity records.

Create a New Insight Severity

To create a new insight severity:

1. Complete the steps in Manage Setup Tasks in Functional Setup Manager to access the list of Customer Experience for Utilities setup tasks.

2. Click on the **Manage Insight Severity** task.

3. On the Insight Severity screen, click the **Create** button.

4. On the Create insight severity drawer, complete these required fields, and then click **Create**:

    • **ID:** Specify a user-defined identification code for the insight.

    • **Description:** Specify a description of the insight.

    • **Status:** Select Active or Inactive.

    • **Rank:** Select a rank. The lower the number, the higher the priority of the insight severity. For example, a critical severity should be a lower number rank than an informational severity.

    • **Default Style:** Select info, warning, or error.

Update an Existing Insight Severity

To update an existing insight severity:

1. Complete the steps in Manage Setup Tasks in Functional Setup Manager to access the list of Customer Experience for Utilities setup tasks.

2. Click on the **Manage Insight Severity** task.

3. On the Insight Severity screen, click the **Edit** icon on the insight severity you want to update.

4. On the Edit insight severity drawer, update the information and then click **Save**.

Delete an Insight Severity

To delete an existing insight severity:

1. Complete the steps in Manage Setup Tasks in Functional Setup Manager to access the list of Customer Experience for Utilities setup tasks.

2. Click on the **Manage Insight Severity** task.

3. On the Insight Severity screen, click the **Delete** icon on the insight severity you want to delete.

4. On the confirmation screen click **Remove**.

Manage Insight Groups with Functional Setup Manager

You can manage the insight groups that are displayed in the Customer Experience for Utilities solution using the Mange Insight Groups setup task in Functional Setup Manager. You use this tasks to create new insight group records and to edit or delete existing insight group records.

Create a New Insight Group

To create a new insight group:

1. Complete the steps in Manage Setup Tasks in Functional Setup Manager to access the list of Customer Experience for Utilities setup tasks.

2. Click on the **Manage Insight Groups** task.

3. On the Insight Groups screen, click the **Create** button.

4. On the Create insight group drawer, complete these required fields, and then click **Create**:

    • **ID:** Specify a user-defined identification code for the insight.

    • **Description:** Specify a description of the insight.

Update an Existing Insight Group

To update an existing insight group:

1. Complete the steps in Manage Setup Tasks in Functional Setup Manager to access the list of Customer Experience for Utilities setup tasks.

2. Click on the **Manage Insight Group** task.

3. On the Insight Groups screen, click the **Edit** icon on the insight group you want to update.

4. On the Edit insight group drawer, update the information and then click **Save**.

Delete an Insight Group

To delete an existing insight group:

1. Complete the steps in Manage Setup Tasks in Functional Setup Manager to access the list of Customer Experience for Utilities setup tasks.

2. Click on the **Manage Insight Groups** task.

3. On the Insight Groups screen, click the **Delete** icon on the insight group you want to delete.

4. On the confirmation screen click **Remove**.

Manage Insight Group Insight Types with Functional Setup Manager

You can manage insight group insight types that are displayed in the Customer Experience for Utilities solution using the Mange Insight Group Insight Types setup task in Functional Setup Manager. You use this tasks to create new insight group insight types and to edit or delete existing insight group insight types.

Create a New Insight Group Insight Type

To create a new insight group insight type:

1. Complete the steps in Manage Setup Tasks in Functional Setup Manager to access the list of Customer Experience for Utilities setup tasks.

2. Click on the **Manage Insight Group InsightTypes** task.

3. On the Insight Group Insight Types screen, click the **Create** button.

4. On the Create insight group insight type drawer, complete these required fields, and then click **Create**:

   • **ID:** Specify a user-defined identification code for the insight.

   • **Insight Group:** Select an existing insight group.

   • **Insight Type:** Select an existing insight type.

Update an Existing Insight Group Insight Type

To update an existing insight group insight type:

1. Complete the steps in Manage Setup Tasks in Functional Setup Manager to access the list of Customer Experience for Utilities setup tasks.

2. Click on the **Manage Insight Group Insight Types** task.

3. On the Insight Group Insight Types screen, click the **Edit** icon on the insight group insight type you want to update.

4. On the Edit insight group insight type drawer, update the information and then click **Save**.

Delete an Insight Group Insight Type

To delete an existing insight group insight type:

1. Complete the steps in Manage Setup Tasks in Functional Setup Manager to access the list of Customer Experience for Utilities setup tasks.

2. Click on the **Manage Insight Group Insight Types** task.

3. On the Insight Group Insight Types screen, click the **Delete** icon on the insight group insight type you want to delete.

4. On the confirmation screen click **Remove**.

Import, Export, and Compare Categories Between Environments

Your users can import, export, and compare service categories between environments using Functional Setup Manager. Users can create or update setup service category data in bulk as well as compare differences between two environments.

For example, a user wants to import service category data into a production environment that has been exported from a test environment after making changes to the setup data. Before the user imports the data, the user can compare the exported data of the test environment with the existing production data, and preview how the setup data in production will change after the data is imported.

Any implementation usually requires migrating setup data from one environment to another at various points in the subscription lifecycle. For example, a subscribed offering is typically set up in the test environment first, and is moved to the production environment only after proper testing and verification. Setup export and import processes help you migrate setup data from test to production.

> **Note:**
>
> In order to complete these tasks, you must have the ability to export and import tasks, **and also** have read/write access to FSM setup tasks.
>
> • To export, import, and compare tasks, users must have the **Export Import Functional Setups User** role.
>
> • To have read/write access to setup tasks, users must also have the following privileges:
>
>   – Administer Industries Class MetaData
>
>   – View Industries Class MetaData
>
> See Manage Roles and Users for additional information.

For detailed information about Functional Setup Manager, see the following chapters in the Using Functional Setup Manager Guide in Oracle Help Center:

• Manage Setup Using CSV File Packages

• Setup Data Export and Import

In this section:

Setting Profile Options

Profile options are a set of preferences that you can use to configure and centrally control user interface settings and application behavior. Administrators and setup users manage profile options in the Setup and Maintenance work area. You can enable a profile option at the following levels:

• **Site level** (lowest): The option value applies to the entire site of deployment.

• **User level** (highest): The option value applies to a specific user only.

For more information about profile options, refer to the Profile Options chapter of the *Implementing Applications Guide*, available in the Applications Common Library on Oracle Help Center.

In this topic, we will focus on the profile options that are associated with Customer Experience for Utilities (ORA_UER), which are associated with:

• **Application:** Customer Experience for Utilities

• **Module:** Customer Experience for Utilities

Customer Experience for Utilities Profile options control various settings, including:

• Landing page configurations for each Customer Experience for Utilities role

• Maximum number of child accounts to include in the Account Hierarchy charts

• Default map coordinates for the Service Contract Usage Map

• Phone number format

• Insight groups to use for insight display

• URLs for integrated systems

• Redirect settings

In this section:

- [Setting Profile Option Values](#)
- [Available Profile Options](#)

Setting Profile Option Values

To find and set the Customer Experience for Utilities profile options:

1. Sign into Oracle Fusion as an administrator or a setup user.

2. Using the menu in the Oracle Header, select **Setup and Maintenance** and then select **Setup: Sales**.

3. Search for the **Manage Administrator Profile Values** task, which provides access to all profile options.

4. Using the values in the table below, search for the Profile Option Code you want to set. Codes for Customer Experience for Utilities begin with **ORA_UER**.

5. Use the instructions in the Set Profile Option Values topic in the *Implementing Applications Guide* to complete your setup.

Available Profile Options

This table lists the available profile options and their functions:

Profile Option Code	Description	Values	Level	Used By
Configurable Landing Page Options (codes vary)	There are multiple options used to specify default landing pages. See Configuring Landing Page Profile Options for more details, including default and available values.	Varies by option.	These options can be set at the site or user level.	CX for Utilities Agent Service CX for Utilities Sales
ORA_UER_ACCT_HIER_REC_LIMIT	Use this profile option to specify the maximum number of child accounts to display in the comparison charts available in the Account Hierarchy.	Any numeric value. **Default:** 50	This option should be set at the site level.	CX for Utilities Sales

Profile Option Code	Description	Values	Level	Used By
ORA_UER_MAP_GEO_CORD	Use this profile option to specify the default center point of the Service Contract Usage Map.	Any latitude and longitude values. **Default:** long=116.9586;lat=33.7839	This option should be set at the site level.	CX for Utilities Sales
ORA_UER_PHONE_FORMAT	Use this profile option to specify the format to use for phone numbers when searching for an entity.	Alphanumeric value that consists of numbers, dashes, and parentheses. For example, `(123) 123-1234`. **Default:** No default value defined.	This option should be set at the site level.	CX for Utilities Agent Service
ORA_UER_ACCOUNT_360_BILLING_ACCOUNT_INSIGHT_GROUP	Use this option to specify which insight group to use when rendering insights for a billing account in Account 360.	Insight group name. **Default:** C1XA	This option should be set at the site level.	CX for Utilities Sales
ORA_UER_ACCOUNT_360_BUSINESS_INSIGHT_GROUP	Use this option to specify which insight group to use when rendering insights for a business (Oracle Fusion account) in Account 360.	Insight group name. **Default:** C1XP	This option should be set at the site level.	CX for Utilities Sales

Profile Option Code	Description	Values	Level	Used By
ORA_UER_CUSTOMER_DASHBOARD_INSIGHT_GROUP	Use this option to specify which insight group to use when rendering insights for a billing account in the Customer Dashboard in CX for Utilities Agent Service.	Insight group name. **Default:** C1XC	This option should be set at the site level.	CX for Utilities Agent Service
ORA_UER_IFRAME_SOURCE_CIS_URL	Use this option to add or change the value of the URL for your customer information system.	Specify the URL.	This option should be set at the site level.	CX for Utilities Agent Service CX for Utilities Sales
ORA_UER_VIEW_TODO_CIS_URL	Use this option to specify the URL you want your users to be directed to when they click on a to do entry link in the Work Queue.	Specify the URL. **Example:** `https://ugbu-ccs-cndevcorp.appoci.oraclecorp.com:8084/cx4ugc/prod/ccs/web/cis.jsp?location=f1todoTabMenu&TD_ENTRY_ID={{ToDoId}}&portal=true`	This option should be set at the site level.	CX for Utilities Agent Service CX for Utilities Sales
ORA_UER_OIA_HUB_IA_SITE_URL	Use this option to specify the URL of your Oracle Intelligent Advisor Hub.	Specify the URL.	This option should be set at the site level.	CX for Utilities Agent Service CX for Utilities Sales

Profile Option Code	Description	Values	Level	Used By
ORA_UER_HISTORICAL_DATA_RANGE	Use this option to specify the number of years of historical data users can see in CX for Utilities Sales. The system will display history data starting from January first of the year that is X number previous to the current year. For example, if you set this option to 3, at any point during 2025, the system will display history as far back as January 1, 2022.	Specify a whole number greater than 1. **Default:** 3	This option should be set at the site level.	CX for Utilities Sales
ORA_UER_IH_MAX_RANGE_IN_DAYS	Specify the maximum number of days of interaction history to display.	Specify a whole number greater than 1. **Default:** 1095	This option should be set at the site level.	CX for Utilities Agent Service
ORA_UER_IH_DEFAULT_RANGE_IN_DAYS	Specify the default number of days of interaction history to display.	Specify a whole number greater than 1. **Default:** 180	This option should be set at the site level.	CX for Utilities Agent Service

ORA_UER_SERVICE_REQUEST_EDIT_PAGE_URL	Specify the Service Request Edit page URL.	Specify the URL.
		Example:
		
		`https://{{host}}/fscmUI/redwood/service/ec/container/`
		
		`    sr/edit?`
		`srNumber={{srNumber}}`
			This option should be set at the site level.	CX for Utilities Sales

Profile Option Code	Description	Values	Level	Used By
ORA_UER_CONTACT_DETAILS_PAGE_URL	Specify the Contact Details page URL.	Specify the URL. **Example:** `https://{{host}}/crmUI/faces/ FuseOverview? fndGlobalItemNodeId=HZ_FOUNDATI ONPARTIES_CONTACTS_CRM_CARD&fnd TaskItemNodeId=HZ_FOUNDATIONPAR TIES_CONTACTS_CRM&fnd=;subTabNa me=Overview%253BContactPartyId ={{partyId}};;;;false;256;;`	This option should be set at the site level.	CX for Utilities Sales CX for Utilities Agent Service
ORA_UER_ACCOUNT_DETAILS_PAGE_URL	Specify the Account Details page URL.	Specify the URL. **Example:** `https://{{host}}/crmUI/faces/ FuseOverview? fndGlobalItemNodeId=ZCM_CUSTOME RCTRINFRA360_CUSTOMERS_CRM_CARD &fndTaskItemNodeId=ZCM_CUSTOMER CTRINFRA360_CUSTOMERS_CRM&fnd=; subTabName=Overview&AccountPart yId={{partyId}};;;;false;256;;`	This option should be set at the site level.	CX for Utilities Sales CX for Utilities Agent Service
ORA_UER_EXPORT_MAX_ROWS	Specify the maximum number of rows supported for the Export component.	Specify a whole number greater than 1. **Default:** 10000	This option should be set at the site level.	CX for Utilities Sales CX for Utilities Agent Service
ORA_UER_SOURCE_SYSTEM_ID	Specify the source system identifier.	Specify the source system identifier. **Default:** CIS	This option should be set at the site level.	CX for Utilities Sales CX for Utilities Agent Service
ORA_UER_UNSUPPORTED_COMMUNICATION_TYPES	Specify the list of communication type values that are not supported by the back-end systems.	List all of the communication types that are not supported. **Default:** WEB,SMS,INSTANT_MESSAGING,TLX, EFT,EDI	This option should be set at the site level.	CX for Utilities Sales CX for Utilities Agent Service
ORA_UER_UNSUPPORTED_CONTACT_POINT_PURPOSE	Specify the list of contact point purpose values that are not supported by the back-end systems.	List all of the contact point purpose types that are not supported. **Default:** ASSISTANT, DUNNING, COLLECTIONS, EMERGENCY	This option should be set at the site level.	CX for Utilities Sales CX for Utilities Agent Service

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Profile Option Code	Description	Values	Level	Used By
ORA_UER_UNSUPPORTED_CONTACT_POINT_PURPOSE_WEB	Specify the list of web contact point purpose values that are not supported by the back-end systems.	List all of the web contact point purposes that are not supported. **Default:** HOMEPAGE, RSS_FEED	This option should be set at the site level.	CX for Utilities Sales CX for Utilities Agent Service
ORA_UER_ENABLE_KAM_BUSINESS_LIST	Enable the Business List feature in Utilities Sales.	Y (Enabled) or N (Disabled). **Default:** Y	This option should be set at the site level.	CX for Utilities Sales
ORA_UER_ENABLE_KAM_CUSTOMER_LIST	Enable the Customer List feature in Utilities Sales.	Y (Enabled) or N (Disabled). **Default:** Y	This option should be set at the site level.	CX for Utilities Sales
ORA_UER_ENABLE_CALL_WRAP_UP_WARNING_DIALOG	Enable warning dialog on Call Wrap Up feature.	Y (Enabled) or N (Disabled). **Default:** Y	This option should be set at the site level.	CX for Utilities Agent Service
ORA_UER_SR_COLLECTION_CATEGORY	Specify the service request collection category name.	Enter the name of the category that is used to identify collections-related service requests. **Default:** Blank	This option should be set at the site level.	CX for Utilities Sales
ORA_UER_SR_COLLECTION_DISPLAY_COUNT	Specify the number of service request records to display in the Debt Summary drawer.	Enter the number of collection-related service requests to display in the Debt Summary drawer. **Default:** 2	This option should be set at the site level.	CX for Utilities Sales
ORA_UER_PREMISE_ACTIVITY_HISTORY_VIEWALL	Enable the View All Activities link in the Activity History section of the Premise page.	Enter Y to enable the View All Activities link, which enables users to access a larger list of activities associated with a premise. **Default:** N (Disabled)	This option should be set at the site level.	CX for Utilities Agent Service

Profile Option Code	Description	Values	Level	Used By
ORA_UER_DISABLE_SERVICE_CONTRACT_LINK	Specify whether you want to disable the links from the Service Contract Map to the Usage History chart in Account 360 when viewing flat-measure service contracts that do not have any usage data. Note that this option only works for services that are marked as flat-measure services in the utility reference type configurations.	Enter Y to disable the links. **Default:** N (Links are enabled)	This option should be set at the site level.	CX for Utilities Sales
ORA_UER_VIEW_CUSTOMER_360_CIS_URL	Specify the URL from your customer information system that should be opened when a user clicks the View in CIS button on the Customer Dashboard.	Enter the URL where you want your users to be directed to when they click on the View in CIS button on the Customer Dashboard. For example, direct the user to Customer 360 in Oracle Utilities Customer to Meter for the selected customer. **Example:** `https://<server>:<port>/<context>/ccs/web/cis.jsp?script=C1CxLoad&PER_ID={{personId}}&ACCT_ID={{accountId}}&initNav=false` **Default:** Blank	This option should be set at the site level.	CX for Utilities Agent Service

Profile Option Code	Description	Values	Level	Used By
ORA_UER_START_NEW_SERVICE_CIS_URL	Specify the URL from your customer information system that should be opened when the user selects the Start New Service option from the Customer Dashboard.	Enter the URL where you want your users to be directed to when they select the Start New Service option from the Customer Dashboard. For example, direct the user to the start service process in Oracle Utilities Customer to Meter for the selected customer. **Example:** `https://<server>:<port>/<context>/ccs/web/cis.jsp?script=C1CxLoad&PER_ID={{personId}}&ACCT_ID={{accountId}}&FLOW=START_SERVICE&initNav=false` **Default:** Blank	This option should be set at the site level.	CX for Utilities Agent Service
ORA_UER_TRANSFER_SERVICE_CIS_URL	Specify the URL from your customer information system that should be opened when the user selects the Transfer Service option from the Customer Dashboard.	Enter the URL where you want your users to be directed to when they select the Transfer Service option from the Customer Dashboard. For example, direct the user to the transfer service process in Oracle Utilities Customer to Meter for the selected customer. **Example:** `https://<server>:<port>/<context>/ccs/web/cis.jsp?script=C1CxLoad&PER_ID={{personId}}&ACCT_ID={{accountId}}&FLOW=TRANSFER_SERVICE&initNav=false` **Default:** Blank	This option should be set at the site level.	CX for Utilities Agent Service
ORA_UER_LINK_TO_BILLING_ACCOUNT_CIS_URL	Specify the URL from your customer information system to open for the link to billing account process.	Enter the URL where you want your users to be directed to when they select the Link to Billing Account option from the Customer Dashboard. For example, direct the user to the link to billing account process in Oracle Utilities Customer to Meter for the selected customer. **Example:** `https://<server>:<port>/<context /ccs/web/cis.jsp?script=C1CxLoad&PER_ID={{personId}}&FLOW=LINK_TO_ACCOUNT&initNav=false` **Default:** Blank	This option should be set at the site level.	CX for Utilities Agent Service

Profile Option Code	Description	Values	Level	Used By
ORA_UER_ENABLE_PAY_PLANS_BUTTON	Enable the Create Payment Plan button in the secondary actions menu in the Customer Dashboard.	Y (Enabled) or N (Disabled). **Default:** N	This option should be set at the site level.	CX for Utilities Agent Service
ORA_UER_PROGRAM_ENROLLMENTS_INSIGHT_GROUP	Specify the insight group to use when displaying program enrollment highlights in the Customer Dashboard.	This profile option has to be Specified to use the insight group when displaying program enrollment highlights in the Customer Dashboard. **Default:** C1PE	This option should be set at the site level.	CX for Utilities Agent Service
ORA_UER_EMAIL_ENROLL_BILL_ROUTE_TYPE	Specify the Bill Route Type code that enables paperless bill enrollment.	Enter the Bill Route Type code. **Default:** EBILL	This option should be set at the site level.	CX for Utilities Agent Service
ORA_UER_EMAIL_UNENROLL_BILL_ROUTE_TYPE	Specify the Bill Route Type code that enables paperless bill unenrollment.	Enter the Bill Route Type code. **Default:** POSTAL	This option should be set at the site level.	CX for Utilities Agent Service

In this section:

• [Configuring Landing Page Profile Options](#)

Configuring Landing Page Profile Options

You can use profile options to determine which landing page (page tab) is displayed by default when your users log in to the Customer Experience for Utilities solutions. You can define that all users with a particular role are brought to a specific landing page (site level), or you can set up individual users to have a specific landing page (user level).

For example, you can use profile options to specify that all Customer Service Representatives are brought to the Customer List by default. This is the site-level setup. You could also specify that certain users with that same role are brought to the Work Queue by default, instead of the Customer List. This is user-level setup, and it takes priority over any site-level setup you define.

If users are assigned to multiple roles, the role with the highest priority is used to determine which landing page is displayed.

This table lists the Customer Experience for Utilities roles, their priorities, and their default landing pages:

Role	Priority	Default Landing Page
ORA_UER_UTILITIES_CUSTOMER_SERVICE_REPRESENTATIVE	1	Customer List
ORA_UER_UTILITIES_CUSTOMER_SERVICE_MANAGER	2	Work Queue
ORA_UER_UTILITIES_CUSTOMER_SERVICE_ADMINISTRATOR	3	Work Queue
ORA_UER_UTILITIES_KEY_ACCOUNT_ADMINISTRATOR	4	Business List
ORA_UER_UTILITIES_KEY_ACCOUNT_MANAGER_FOR_SALES	5	Business List
ORA_UER_UTILITIES_KEY_ACCOUNT_SUPERVISOR_FOR_SALES	6	Business List
ORA_UER_UTILITIES_KEY_ACCOUNT_MANAGER_FOR_SERVICE	7	Business List
ORA_UER_UTILITIES_KEY_ACCOUNT_SUPERVISOR_FOR_SERVICE	8	Business List

This table lists the profile options that are associated with landing pages.

Profile Option and Description	Default Value	Possible Values
ORA_UER_UTILITIES_KEY_ACCOUNT_MANAGER_FOR_SALES Landing Page for the Role of Utilities Customer Service Manager	Business List Landing Page	Business List Landing Page
ORA_UER_UTILITIES_KEY_ACCOUNT_SUPERVISOR_FOR_SALES Landing Page for the Role of Utilities Key Account Supervisor	Business List Landing Page	Business List Landing Page
ORA_UER_UTILITIES_KEY_ACCOUNT_MANAGER_FOR_SERVICE Landing Page for the Role of Utilities Key Account Manager	Business List Landing Page	Business List Landing Page Work Queue Landing Page
ORA_UER_UTILITIES_KEY_ACCOUNT_ADMINISTRATOR Landing Page for the Role of Utilities Key Account Administrator	Business List Landing Page	Business List Landing Page Work Queue Landing Page
ORA_UER_UTILITIES_CUSTOMER_SERVICE_REPRESENTATIVE Landing Page for the Role of Utilities Customer Service Representative	Customer List Landing Page	Business List Landing Page Work Queue Landing Page

Profile Option and Description	Default Value	Possible Values
ORA_UER_UTILITIES_CUSTO MER_SERVICE_MANAGER Landing Page for the Role of Utilities Customer Service Manager	Work Queue Landing Page	Business List Landing Page Work Queue Landing Page
ORA_UER_UTILITIES_CUSTO MER_SERVICE_ADMINISTRAT OR Landing Page for the Role of Utilities Key Account Administrator	Work Queue Landing Page	Business List Landing Page Work Queue Landing Page
ORA_UER_UTILITIES_KEY_AC COUNT_SUPERVISOR_FOR_SE RVICE Landing Page for the Role of Utilities Key Account Administrator	Business List Landing Page	Business List Landing Page Work Queue Landing Page

5

Configure Data Synchronization

Both the Oracle Fusion and Oracle Utilities applications require a record of customer information to perform functions such as:

- Identifying a customer when an interaction is initiated through a Customer Experience for Utilities solution.

- Creating a service request for follow-up and resolution of a customer issue.

- Managing a service agreement or service contract with a financially responsible entity.

- Generating a bill for the customer's service usage.

- Sending a service communication to a customer.

In the Oracle Fusion applications, a customer party can be classified as follows:

- **Customers:** These records represent Oracle Fusion contacts or accounts who are associated with a utility billing account. These entities exist as contacts or accounts in the Oracle Fusion systems and also as Persons in your Oracle Utilities customer information system.

- **Contacts:** These records represent Oracle Fusion contacts who are not associated with a utility billing account. These could be persons that the utility wants to establish a relationship with, or any other person you need to record details for that is not attached to a billing account. These records exist only as contacts in the Oracle Fusion system, and do not exist in your Oracle Utilities customer information system.

- **Prospects:** These records can represent businesses or people in multiple scenarios, as follows:

  – Businesses that exist only as Oracle Fusion accounts. These could be businesses the utility wants to establish a relationship with.

  – Businesses that exist as both an Oracle Fusion account and also as a Person (with Type = Business) in your Oracle Utilities customer information system, but were never associated with a utility billing account.

  – People that exist as both an Oracle Fusion contact and also as a Person (with Type = Person) in your Oracle Utilities customer information system, but were never associated with a utility billing account.

- **Premises:** These records represent vacant premises, or premises that do not currently have any active service contracts.

The type of information stored varies for a contact or account, and for individual or business customers. In Oracle Utilities customer information systems, a Person record can be classified as a person or a business.

For the experiences to function, the following customer information must be synchronized between the Oracle Fusion and Oracle Utilities systems:

- Primary Name

- Communication Contact Points

- Internal System Record Identifiers

- Characteristics and Mapped Attributes

The data synchronization allows each application to make changes to these customer details independently.

If you are using an existing Oracle Utilities customer information system that already has customer data, you must first complete the initial data synchronization process before the ongoing data synchronization process can be used. For the initial synchronization to occur, you create csv files from your Oracle Utilities system, use the information in the Appendix A: Data Mapping topic to edit the files, and then import the files into Oracle Fusion.

In the ongoing data synchronization process, updating this data from the Oracle Fusion Customer Experience for Utilities solutions is an asynchronous update using Oracle Signals. Updates made only in the Oracle Utilities customer information system are triggered via an asynchronous batch process. You can schedule this batch process to run as frequently as required.

For the ongoing synchronization to occur, you must:

- Set up the Oracle Fusion data synchronization using Oracle Signals, which includes:
  - Activating the ORA_ZCA_ENABLE_SIGNALS profile option
  - Provision the Sales Administrator role to fetch signals
  - Submit a request to run the Utilities Migration job
  - Create an Oracle Utilities user to persist data in your Oracle Utilities customer information system
- Set up the Oracle Utilities data synchronization process, which includes:
  - Mapping business configurations between Oracle Fusion and Oracle Utilities so that the right information is transferred and stored in the appropriate place in each system. You use the Fusion CX for Industries Framework Utility Configurations REST Service to configure this mapping and to define target URLs.
  - Running the sync request batch process (F1-SYNRQ) to generate messages for all pending changes from your Oracle Utilities system since the last batch run. You can schedule this batch process to run as frequently as required.

For additional information about this REST service and about person data mapping and configuration, see:

- Manage Integration Configurations
- Appendix A: Data Mapping
- Appendix B: REST APIs

In this section:

- Initial Data Synchronization
- Ongoing Data Synchronization
- Data Sync Considerations and Recommendations

Initial Data Synchronization

If you are adding Customer Experience for Utilities solutions to an existing Oracle Utilities customer information system, you must load your existing person and contact data from Oracle Utilities into the Oracle Fusion system. You perform this initial data synchronization process for each type of person data to ensure that all required data is available in Oracle Fusion.

For example, if you are using Oracle Utilities Customer to Meter, complete these steps:

1. Export person data from Customer to Meter into a csv file.

2. Edit the csv file so that data represents the values that are accepted by the Oracle Fusion system.

3. Import your data into Oracle Fusion using the Oracle Sales and Service Import and Export feature.

You will perform this process once for each of the following types of data:

• Export Person records with type = P (Person) to create Oracle Fusion Contact records.

• Export Person records with type = B (Business) to create Oracle Fusion Account records.

• Export contact information for all Person records to create Oracle Fusion Contact Point records.

After you complete these initial data imports to Oracle Fusion, you can then rely on the Ongoing Data Synchronization process to manage any changes that occur in your systems.

As you edit your csv files to include Oracle Fusion values, refer to Appendix A: Data Mapping for assistance and additional information.

For information about the Oracle Sales and Service Import and Export features, see the *Understanding Import and Export Management for Sales and Fusion Service Guide*, available in the Oracle Sales library.

In this section:

• Import Initial Contact Data

• Import Initial Account Data

• Import Initial Contact Point Data

• Exporting Data from Customer Cloud Service

Import Initial Contact Data

Before you can begin using Customer Experience for Utilities solutions, you must perform the initial load of contact data into the Oracle Fusion system.

This image shows a simplified example of what the file might look like when you complete these steps:

Figure 5-1   Import Contact Sample File

	A	B	C	D	E	F
1	SourceSystem	SourceSystemReferenceValue	PartyNumber	Type	FirstName	LastName
2	CIS	123456	CIS_123456	ZCA_CONTACT	John	Jacobs
3	CIS	234567	CIS_234567	ZCA_CONTACT	Sandra	North
4	CIS	345678	CIS_345678	ZCA_CONTACT	Allen	Combs
5	CIS	456789	CIS_456789	ZCA_CONTACT	Deborah	Stanley

1. Using the method of your choice, export the following data from your Oracle Utilities customer information system (CIS) into a CSV file:

   • Person records with **PER_OR_BUS_FLG** = P

If you are using Oracle Utilities Customer Cloud Service, release 24 or later, you can use batch processes provided in the system to export your data. See Exporting Data from Customer Cloud Service.

2. Update the CSV file so that it contains the following column headings, in this order, and so that the data in the columns represents valid Oracle Fusion values. For additional information about accepted values, see Appendix A: Data Mapping.

   a. **SourceSystem** - This column should contain the value **CIS** for all records.

   b. **SourceSystemReferenceValue** - If you are not using auto numbering, this column should contain the Person ID from your CIS. For example, **0123456789**.

   c. **PartyNumber** - If you are not using auto numbering, this column should contain the values that you want to use. You might use a combination of the SourceSystem column and the SourceSystemReferenceValue column, separated by an underscore. For example, this column might contain **CIS_0123456789**.

      Oracle Fusion has a Profile Option Code, **HZ_GENERATE_PARTY_NUMBER**, that controls whether the Party Number (Registry Id) is auto generated or provided. It also controls whether edits to this value are allowed. See "Foundation Profile Options" in the *Oracle Fusion Cloud Sales Automation Implementation Reference Guide,* available in the Oracle Sales library, located in the Oracle Help Center.

   d. **Type** - This column should contain the value that you want to use for the ZCA_CONTACT_TYPE of your person records. Valid lookup values are:

      • ZCA_CONTACT

      • ZCA_CUSTOMER

      • ZCA_PROSPECT

      The default value can be set in Oracle Fusion and the field is typically hidden from users so they can't change the value after it is set. See "Set the Default Customer Type" in the *Configuring Sales for B2C Guide*, available in the Oracle Sales library.

      If you use **ZCA_CUSTOMER** or **ZCA_CONTACT**, addresses are not required because person addresses are not included in the data synchronization from your Oracle Utilities system. However, you must set the value for these profile option codes to **No**, so that the address is not required:

      • ZCA_ACCOUNT_ADDRESS_REQUIRED_ENABLED

      • ZCA_CONTACT_ADDRESS_REQUIRED_ENABLED

      See How Do I Set Up Required Address Option for Accounts and Contacts in the *Oracle Fusion Cloud Sales Automation Implementation Reference Guide* for additional information.

   e. **FirstName** - This column should contain the first name of the person.

   f. **LastName** - This column should contain the last name of the person.

   g. You can include additional columns to import characteristics. When importing characteristics, you must ensure that the column heading is an accepted value in the Oracle Fusion system. For additional information, see Appendix A: Data Mapping.

   h. Import your file into Oracle Fusion. See the *Understanding Import and Export Management for Sales and Fusion Service Guide* in the Oracle Sales library for instructions.

   i. Verify that the contacts exist in the Oracle Fusion system. For information, see the Managing Contacts topic in the Oracle Sales library.

Import Initial Account Data

Before you can begin using Customer Experience for Utilities solutions, you must perform the initial load of account data into the Oracle Fusion system.

This image shows a simplified example of what your file might look like when you complete this step:

Figure 5-2   Import Account Sample File

	A	B	C	D	E
1	OrganizationName	SourceSystem	SourceSystemReferenceValue	PartyNumber	Type
2	ABC Incorporated	CIS	899856	CIS_899856	ZCA_PROSPECT
3	DEF Industries	CIS	854596	CIS_854596	ZCA_PROSPECT
4	GHI Corporation	CIS	635751	CIS_635751	ZCA_PROSPECT

1. Using the method of your choice, export the following data from your Oracle Utilities customer information system (CIS) into a CSV file:

    •   Person records with **PER_OR_BUS_FLG** = B

    If you are using Oracle Utilities Customer Cloud Service, release 24 or later, you can use batch processes provided in the system to export your data. See Exporting Data from Customer Cloud Service.

2. Update the CSV file so that it contains the following column headings, in this order, and that the data in the columns represents valid Oracle Fusion values. For additional information about accepted values, see Appendix A: Data Mapping.

    a. **OraganizationName** - This column should contain the name of the business.

    b. **SourceSystem** - This column should contain the value **CIS** for all records.

    c. **SourceSystemReferenceValue** - This column should contain the Person ID from your CIS. For example, **0123456789**.

    d. **PartyNumber** - If you are not using auto numbering, this column should contain the values that you want to use. You might use a combination of the SourceSystem column and the SourceSystemReferenceValue column, separated by an underscore. For example, this column might contain **CIS_0123456789**.

        Oracle Fusion has a Profile Option Code, **HZ_GENERATE_PARTY_NUMBER**, that controls whether the Party Number (Registry Id) is auto generated or provided. It also controls whether edits to this value are allowed. See "Foundation Profile Options" in the *Oracle Fusion Cloud Sales Automation Implementation Reference Guide,* available in the Oracle Sales library, located in the Oracle Help Center.

    e. **Type** - This column should contain the value that you want to use for the ZCA_CONTACT_TYPE of your organization party records. Valid lookup values are:

        •   ZCA_CUSTOMER

        •   ZCA_PROSPECT

        The default value can be set in Oracle Fusion and the field is typically hidden from users so they can't change the value after it is set. See "Set the Default Customer Type" in the *Configuring Sales for B2C Guide*, available in the Oracle Sales library.

        f you use **ZCA_CUSTOMER** or **ZCA_CONTACT**, addresses are not required because person addresses are not included in the data synchronization from your Oracle

Utilities system. However, you must set the value for these profile option codes to **No**, so that the address is not required:

- ZCA_ACCOUNT_ADDRESS_REQUIRED_ENABLED
- ZCA_CONTACT_ADDRESS_REQUIRED_ENABLED

See How Do I Set Up Required Address Option for Accounts and Contacts in the *Oracle Fusion Cloud Sales Automation Implementation Reference Guide* for additional information.

f. You might also have additional columns to import characteristics. When importing characteristics, you must ensure that the column heading is an accepted value in the Oracle Fusion system.

g. Import this file into Oracle Fusion. See the *Understanding Import and Export Management for Sales and Fusion Service Guide* in the Oracle Sales library for instructions.

h. Verify that the accounts exist in the Oracle Fusion system. For information, see the Managing Accounts topic in the Oracle Sales library.

Import Initial Contact Point Data

Before you can begin using Customer Experience for Utilities solutions, you must perform the initial load of contact point data into the Oracle Fusion system. Contact point data represents the contact information associated with the person records in your Oracle Utilities customer information system (CIS).

This image shows a simplified example of what your file might look like when you complete this process:

Figure 5-3   Contact Point Sample File

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	PartyNumber	ContactPointType	PrimaryFlag	URL	WebPurpose	EmailAddress	EmailPurpose	PhoneCountryCode	PhoneAreaCode	PhoneNumber	PhoneExtension	PhonePurpose	PhoneType
2	CIS_966489	WEB	Y	https://we	SALESURL								
3	CIS_966489	PHONE	N					1	123	3575867	33	FASCIMILE-NEW	FAX
4	CIS_966489	EMAIL	Y			abc@email.co	PERSONAL						
5	CIS_966454	WEB	Y	https://use	SALESURL								
6	CIS_966454	PHONE	N					1	555	9988997	11	HOME_BUSINE	HOME
7	CIS_966454	PHONE	N					1		4445678		PERSONAL	MOBILE
8	CIS_966454	EMAIL	Y			def@email.co	BUSINESS						

1. Using the method of your choice, export the following data from your Oracle Utilities customer information system (CIS) into a CSV file:

   - All Person records with **PER_OR_BUS_FLG** = P or B

   If you are using Oracle Utilities Customer Cloud Service, release 24 or later, you can use batch processes provided in the system to export your data. See Exporting Data from Customer Cloud Service.

2. Update the CSV file so that it contains the following column headings, in this order, and that the data in the columns represents valid Oracle Fusion values. For additional information about accepted values, see Appendix A: Data Mapping.

   a. **PartyNumber** - This column should contain **CIS_** followed by the **SourceSystemReferenceValue** associated with the person that you imported during the previous tasks. For example, **CIS_0123456789**.

   If the data is imported from your Oracle Utilities customer information system, the party number can be assigned during the export file generation. The same party number

should be updated in your customer information system for that person record. See Update the Party Number in Oracle Utilities for additional information.

b. **ContactPointType** - This column should contain the Oracle Fusion value that represents the type of contact point. For example, **PHONE** or **EMAIL**.

c. **PrimaryFlag** - This column should contain a **Y** or **N** to identify whether the contact point is the primary contact method for the specified type.

d. **URL** - This column should contain the URL value of the contact point, if available.

e. **WebPurpose** - This column should contain the description of the associated URL. For example, **SALESURL**.

f. **EmailAddress** - This column should contain the email address, if available.

g. **EmailPurpose** - This column should contain the description of the associated email address. For example, **PERSONAL**.

h. **PhoneCountryCode** - This column should contain the country code of the phone number.

i. **PhoneAreaCode** - This column should contain the area code of the phone number.

j. **PhoneNumber** - This column should contain the phone number, less the country code, area code, and extension.

k. **PhoneExtension** - This column should contain the phone extension, if available.

l. **PhonePurpose** - This column should contain the description of the associated phone number. For example, **PERSONAL**.

m. **PhoneType** - This column should contain the type of the associated phone number. For example, **MOBILE**.

n. You might also have additional columns to import characteristics. When importing characteristics, you must ensure that the column heading is an accepted value in the Oracle Fusion system.

o. Import this file into Oracle Fusion. See the *Understanding Import and Export Management for Sales and Fusion Service Guide* in the Oracle Sales library for instructions.

p. Verify that the contact points exist in the Oracle Fusion system. For information, see the Managing Contacts and Managing Accounts topics in the Oracle Sales Automation library.

In this section:

• Update the Party Number in Oracle Utilities

Update the Party Number in Oracle Utilities

If customer data from your Oracle Utilities customer information system is being imported into Oracle Fusion as part of the initial data load, the Party Number reference must be updated for the Person records in the Oracle Utilities database as well. The necessary characteristic type is **C1-EXCID** with the Party Number from the Oracle Fusion record as the value.

To populate the appropriate characteristic on each Person record, use a Plug-in Driven Batch process. For additional information on running this process:

• For cloud implementations, see "Cloud Live Operate Data Fix Plug-In Driven Batch" in the *Oracle Utilities Cloud Operations Guide*, which is available in the library for your Oracle Utilities customer information system.

- For on-premises implementations, see "Plug-In Driven Background Processes" in the Framework Administrative User Guide, available in the Oracle Utilities Customer to Meter library.

To use this mechanism, you create a new batch control and the associated script/algorithms:

- Selection script/algorithm

- Process records script/algorithm

For the selection script/algorithm, use the relevant selection SQL to find Person records that do not include the Party Number characteristic:

```
SELECT PER_ID

FROM CI_PER

WHERE PER_ID NOT IN

(SELECT PC.PER_ID FROM CI_PER_CHAR PC WHERE PC.CHAR_TYPE_CD = 'C1-EXCID')
```

For the process records script/algorith, use the base **C1CXPerson** business object that includes characteristics to process an update.

Additionally, the update initiated by the script/algorithm must prevent the creation of an **echo** sync request message back to Oracle Fusion, which would be triggered by default. When the context variable **$$sourceExternalSystem** is set to **CX4U**, the audit does not create a sync request.

Use this example script code and verify the format for the Party Number:

```
move "$personId" to "C1CXPerson/personId";

move 'C1-EXCID' to "C1CXPerson/+personCharacteristic/characteristicType";

move "concat('CIS_', $personId)" to "C1CXPerson/
personCharacteristic[last()]/adhocCharacteristicValue";

move '1950-01-01' to "C1CXPerson/personCharacteristic[last()]/
effectiveDate";

//prevent an echo sync request

move 'CX4U' to $$sourceExternalSystem;

invokeBO 'C1CXPerson' using "C1CXPerson" for update;
```

In the example script above, the party number data is populated by using the pattern – string 'CIS_' prefixed to the value of personId attribute for each Person Entity.

```
"concat('CIS_', $personId)"
```

In the actual script, this should reflect the party number generation pattern used for the particular implementation.

Exporting Data from Customer Cloud Service

When integrating Oracle Utilities Customer Cloud Service with Customer Experience for Utilities, all person records for individuals and business must be exported from Customer Cloud Service so they can be imported into, and synchronized between, all related Oracle Fusion systems. This involves:

- Defining person and business values and mapping them to corresponding values in the Oracle Fusion systems using a master configuration.

- Running two batch processes to export and synchronize the data:
  - C1-PEREX
  - C1-PERSY

> **Note:**
>
> This process is available only if you are using Oracle Utilities Customer Cloud Service release 24A or later.

For additional information about master configurations and batch processes in Customer Cloud Service, see the "Person Export for Customer Experience for Utilities" topic in the Integration section of the Administrative User Guide for your version of Oracle Utilities Customer Cloud Service.

Ongoing Data Synchronization

Once all party data is available in both applications, ongoing updates to mapped attributes that are made in either system need to be kept in sync. In the ongoing data synchronization process, updating data from the Customer Experience for Utilities solutions is an asynchronous update that is triggered using Oracle Signals. Customer information that is created or updated in your Oracle Utilities system is sent to Oracle Fusion using a periodic batch process that enables you to keep these changes up to date in the Oracle Fusion application. Both parts of the synchronization must be configured to ensure that data between your systems is kept current.

For additional information about person data mapping and configuration, see:

- Appendix A: Data Mapping

The remaining steps in this topic are written for Oracle Utilities Customer Cloud Service. If you are using another Oracle Utilities customer information system, refer to the documentation for your identity management system to determine how to complete these steps for your implementation. Contact your implementation team for additional assistance.

In this section:

- Fusion Data Synchronization
- Utilities Data Synchronization

Fusion Data Synchronization

In the ongoing data synchronization process, updating data from the Customer Experience for Utilities solutions is an asynchronous update that is completed using Oracle Signals. This process requires you to:

- Enable Signals in your profile options
- Provision a user role to fetch signals from Oracle Fusion applications
- Update existing signal definitions (optional)
- Understand the naming conventions for signals
- Create a user in your Oracle Utilities customer information system to persist data

The remaining steps in this topic are written for Oracle Utilities Customer Cloud Service. If you are using another Oracle Utilities customer information system, refer to the documentation for your identity management system to determine how to complete these steps for your implementation. Contact your implementation team for additional assistance.

Additionally, extended attributes are currently not supported. Signal definitions are seeded and cannot be modified. Seeded signal definition cannot be configured to have an extended attribute. Create, update, and delete of extended attributes is not supported.

Task	Details
Enable Signals	To implement near real-time synchronization for contact and account records, you must enable the Signals functionality by setting the profile option, Common CRM Signals Active (**ORA_ZCA_ENABLE_SIGNALS**), to Yes. By default, Signals functionality is disabled.
	For information about setting profile options, see Set Profile Option Values in the *Oracle Fusion Implementing Applications Guide.*
Provision User Role to Fetch Signals	Add the Sales Administrator role (ORA_ZBS_SALES_ADMINISTRATOR_JOB) to the provisioned FABRIC_CX4U_SYSTEM_USER user.
	For additional information, see Manage Roles and Users.

Task	Details
Update Existing Signal Definitions (Optional)	1. Fetch all active seeded definitions using the following URL: https://<HOST>:<PORT>/crmRestApi/resources/11.13.18.05/signalDefinitions?q=OwnerGroup='CX4U';ActiveFlag=true
	2. Fetch the configuration using the following URL: https://<HOST>:<PORT>/crmRestApi/resources/11.13.18.05/signalDefinitions/<SignalDefinitionId>/enclosure/Configuration
	3. Encode the modified configuration into Base64 format.
	4. Submit the request:

```
URL: https://<HOST>:<PORT>/
crmRestApi/resources/11.13.18.05/
signalDefinitions/
<SignalDefinitionId>

Request: PATCH

Sample Payload:
```

{

"eyJPYmplY3RQYYXlsb2FkQXR0cmlidXRlc
yI6WyJQYXJ0eU51bWJlciIsIlNvdXJjZVN
5c3RlbSIsIlNvdXJjZVN5c3RlbVJlZmVyZ
W5jZVZhbHVlIl0sIlJlbGF0ZWRPYmplY3R
QYYXlsb2FkQXR0cmlidXRlcyI6WyJDb250Y
WN0UG9pbnRJZCIsIkNvbnRhY3RQb2ludFR
5cGUiLCJFbWFpbEFkZHJlc3MiLCJFbWFpb
FB1cnBvc2UiLCJMYXN0VXBkYXRlZEJ5Iiw
iUGhvbmVBcmVhQ29kZSIsIlBob25lRXh0Z
W5zaW9uIiwiUGhvbmVOdW1iZXIiLCJQaG9
uZVB1cnBvc2UiLCJQcmltYXJ5RmxhZyIsI
lNvdXJjZVN5c3RlbSIsIlNvdXJjZVN5c3R
lbVJlZmVyZW5jZVZhbHVlIiwiU3RhdHVzI
iwiVVJMIiwiV2ViUHVycG9zZSJdLCJQZXJ
zaXN0ZWRGbGFnIjp0cnVlLCJTdHJlYW1lZ
EZsYWciOmZhbHNlLCJDb25kaXRpb24iOiI
kU291cmNlU3lzdGVtID09ICdDSVMnICYmI
CRMYXN0VXBkYXRlZEJ5ICE9ICdGQUJSSUN
fQ1g0VV9TWVNURU1fVVNFUicifQ=="

}

| | 5. Also, when making any configuration changes, modify only the following configurations: |

Task	Details
	• ObjectPayloadAttributes • RelatedObjectPayloadAttributes • ChangeAttributes
Understand the Naming Conventions for Signals	When cloning a signal definition, the signal should be modified to use the <Signal Name>/<Version> format. For example: • Create Account ContactPoint for CX4U/v1 • Create Account ContactPoint for CX4U/v2 If there are multiple active versions with the same signal name, only the higher version is considered for the polling. In the above example, only Create Account ContactPoint for CX4U/v2 would be considered for signal polling, and Create Account ContactPoint for CX4U/v1 would be ignored.

Task	Details
Create an Oracle Utilities User to Persist Data	To create the utilities user that enables data synchronization, complete these steps:

1. Log into your Oracle Utilities customer information system and your related Oracle Identity Cloud Service (IDCS) as an administrator.

2. In IDCS, select **Oracle Cloud Services**.

3. Locate the record with the description "CX4U Integration (Signals)" and click the hyperlink in the **Name** column.

4. Scroll down to the **OAuth Configuration** section, and locate the **Client ID** field.

5. Copy the value displayed in the **Client ID** field.

6. Go to your Oracle Utilities customer information system, and add a user that has the following values:
   - **User:** Enter a name that represents an integration user. For example, **CX4UINTG**.
   - **Login ID:** Enter the Client ID you copied from IDCS.
   - **First Name:** Enter a name that will enable you to easily understand the purpose of this user. For example, **CX4U**.
   - **Last Name:** Enter a name that will enable you to easily understand the purpose of this user. For example, **OAuth Client**.

7. **User Enable:** Select **Enable**.

8. Specify a user group that is given to users who are using the Customer Experience for Utilities experiences.

9. On the **To Do Roles** tab, specify a role that enables integration of all necessary data between your customer information system and Customer Experience for Utilities. For example, ensure that the role includes customer, person, and account data.

10. On the **Access Security** tab, specify a data access role that enables this user to access all data required by the integration, and pass it between systems. For example, person, customer and account data.

11. Complete the steps for creating a user. See Security and User Options in the Framework Administrative User Guide for your Oracle Utilities customer information

Task	Details
	system, available in the Oracle Energy and Water help center.

Utilities Data Synchronization

When a change is made, or a new record is created in your Oracle Utilities customer information system, the system sends one message for every customer that needs to be synchronized. This message contains all customer-related data. The changed records are marked as pending synchronization.

You then run the sync request batch process (F1-SYNRQ) to generate messages for all pending changes from your Oracle Utilities system since the last batch run. You can schedule this batch process to run as frequently as required.

For ongoing synchronization to occur, you must map business configurations between Oracle Fusion and your Oracle Utilities system so that the right information is transferred and stored with the appropriate values in each system. You use the Fusion CX for Industries Framework Utility Configurations REST Service to configure this value mapping and to define target URLs.

For additional information about this REST service and about person data mapping and configuration, see:

- Manage Integration Configurations
- Appendix A: Data Mapping
- Appendix B: REST APIs

The remaining steps in this topic are written for Oracle Utilities Customer Cloud Service. If you are using another Oracle Utilities customer information system, refer to the documentation for your identity management system to determine how to complete these steps for your implementation. Contact your implementation team for additional assistance.

Service-related updates to customer information that are initiated in the Customer Experience for Utilities solutions follow these high-level steps:

1. Customer service agent accesses a customer record and submits an update, or creates a new customer record. The new or updated record is committed in the Oracle Fusion application by invoking the Oracle Fusion REST API.

2. If the customer record is already linked to a Customer Cloud Service person record, or this is a utilities service-related flow:

   - The Oracle Utilities Person Information Synchronization REST API is invoked with the party number as the external identifier and the person details.

   - If no errors occur, the person identifier is returned, and the customer record in the Oracle Fusion application is updated with the source system reference of the Customer Cloud Service person identifier, which is the system-assigned key for the record.

3. If errors occur from the REST APIs, messages are displayed for the end user to review.

See Appendix B: REST APIs for additional information.

In this section:

- Configure the Data Synchronization Process

Configure the Data Synchronization Process

To configure this part of the synchronization, log in to CX Industry Framework identity domain. Under Oracle Cloud Services locate an application created for the ongoing data synchronization in the CX Industry Framework identity domain. This was likely created during the initial registration process, and is named something similar to CX4UINT. You will be using the OAuth client credentials configured in this application to complete the remaining steps. Contact your delivery team if you need assistance gathering the required information.

Refer to the Data Synchronization section in the Oracle Utilities Framework User Guide for more information on batch processing and error handling.

1. Configure the Key Ring **C1-CXIF** to store:

   • **OAuth Client ID:** The client ID for the OAuth Client mentioned above.

   • **OAuth Client Secret:** The client secret for the OAuth Client mentioned above.

2. Configure the outbound data synchronization with a Message Sender of **C1CxPersonSy** for the delivered application Outbound Message Type of **C1PERSYNC** on the External System of CX4U for Real-time HTTP / JSON messages. The context is delivered for sending the synchronization records with the following values:

   • **HTTP Method:** PUT

   • **HTTP URL 1:** URL for CX Industry Framework API with path variables

   • **OAuth Grant Type:** client_credentials

   • **Sender Security Type:** OAUTH

3. Additional values need to be configured for the CX Industry Framework pairing:

   • **Oauth Access Token URL:** The OAuth server URL from which to obtain the access token. Use the CX Industry Framework identity domain.

   • **OAuth REST API Scope:** Scope for CX Industry Framework REST API.

4. Schedule the **F1-SYNRQ** (sync request monitor) batch process to send the sync request messages from Customer Cloud Service. This is a generic batch process that is used for multiple integration sync processes and should be scheduled based on frequency for all external system synchronizations.

5. The person synchronization is controlled by an F1-DataSyncControl extendable lookup business object of **C1-CX4U-PERSON**. The status of this lookup record must be **ACTIVE** to enable the synchronization and the external system.

6. The **Installation Options - Person** should be configured to allow synchronization from the Fusion application without government issued identifiers prior to linking the person to a utility billing account or prior to starting new utility service. The **Person ID Usage** setting cannot be configured as required, as this will cause the data synchronization to fail when no person identifiers are passed from Fusion. Depending on your business requirements, use one of these settings for the **Person ID Usage:**

   • Optional

   • Required When Financially Responsible

   • Required When Linked to Account

   • Required When Main Person

7. Complete the steps to flush the caches for the Server Cache, Batch Cache, and Client Cache as described in the *Caching Overview* section of the *Customer Cloud Service Administrative User Guide*, available in the Oracle Utilities Customer Cloud Service library.

   For additional information on batch processing and error handling, see *Data Synchronization* in the *Oracle Utilities Framework User Guide*, available in the Oracle Utilities Customer Cloud Service library.

Contact your delivery team and confirm that the Cloud Customer Support team prepared the environments for registration, including variables that are referenced such as @C1FABRIC@ for the HTTP URL in the application cloud parameters.

Data Sync Considerations and Recommendations

This section lists several items that should be considered during implementation of the data sync process.

Data	Considerations and Recommendations
Contact Types	In your Oracle Utilities system, each contact type refers to a routing type that has delivered base values, but each implementation can add more configured values. Only one primary contact point record is allowed for each routing type. Synchronizing a list of multiple instances of the same communication type (such as multiple home phone numbers) is enabled because the integration synchronizes a cross-reference of the unique contact communication point record identifiers in each system.
	Recommendation: Implementation teams should use the same configured values for communication types in both systems where possible so that no further value mapping is needed. However, if different values must be configured, mappings within the CX Industry Framework Utility Configurations can be used to configure the integration.
	For additional information, see Manage Integration Configurations.

Data	Considerations and Recommendations
Characteristics and Extension Attributes	Oracle Utilities customer information systems support configuration of characteristic types to store additional data on person objects. For additional information, refer to *Defining Characteristic Types* in the *Customer Cloud Service Administrative Guide*, available in the Oracle Utilities Customer Cloud Service library.
	If these values need to be synchronized to Contacts or Accounts in Fusion, determine the mapping to explicit fields in the Fusion application schemas. For additional information on extensions, refer to the Configuring and Extending Fusion Cloud Applications in the Oracle Help Center.
	Recommendation: Set the Utility Configuration to map the Characteristic Type as the "cssValue" and the Fusion application field as "faValue" for each pair of attributes that should be included in the data synchronization. For example:

```
"ccsValue":
"C2MBTHDT",
"faValue":
"DateOfBirth"
or
"ccsValue": "C1-NICK",
"faValue":
"NickName"
```

For additional information, see Manage Integration Configurations.

Data	Considerations and Recommendations
Primary IDs and Personally Identifiable Information (PII)	Oracle Utilities customer information systems support multiple types of identification that can be used to identify a customer. Typically, at least one of some group of fields must be provided to verify the customer identity. For example, in the United States: • Federal Social Security Number, state driver's license number, or passport number for an individual. • Federal Employer Identification Number for a business. Each type of identification, and the rules regarding which fields are required for verification, are configured by the utility during installation. **Recommendation:** Sensitive data can be retained only in Customer Cloud Service and typically would not need to be stored in the Oracle CX Sales or Oracle Fusion Service systems. If this sensitive information is required in multiple systems, the data synchronization can be extended by your implementation to include customer identifiers with appropriate security controls. Optionally, Oracle Fusion Enterprise Data Quality can be implemented with the Oracle Fusion applications to identify duplicate records where matching rules are configurable. Warnings can be issued based on a match score (using name, communication points, and other information beyond identifiers), which allows for selecting an existing party instead of creating a duplicate. See Appendix A: Data Mapping for detailed synchronization message mapping information for this integration.

6

Configure Single Sign On

For your employees to access CX for Utilities applications, you must set up your system to enable single sign on (SSO) for your Oracle Fusion and Customer Cloud Service systems.

This chapter provides instructions for setting up SSO using the suggested topology displayed in the following image. Your implementation might vary from this topology, based on the setup of your environments. Changes in topology could result in changes to the instructions provided here. Before you attempt these steps, work with your delivery team to ensure you fully understand the topology of your implementation, and how it impacts your SSO configuration.

This suggested topology provides SSO via the Fusion applications identity domain, as shown here:

Figure 6-1   Suggested Topology

To configure SSO, your system administrator must complete the following steps, as depicted in the above image:

- **Step 1:** Set up your Customer Cloud Service identity domain as the service provider in your Fusion applications identity domain.

- **Step 2:** Set up your Fusion applications identity domain as your identity provider in the Customer Cloud Service identity domain.

When you have completed these steps, you then test your SSO setup to verify that it works. If you need assistance gathering this information, contact My Oracle Support or your delivery team.

In this chapter:

- Prerequisites

- Set Up Customer Cloud Service Identity Domain as Service Provider in Fusion Applications Identity Domain

- Set Up Fusion Applications Identity Domain as the Identity Provider in Customer Cloud Service Identity Domain
- Test Your Single Sign On Setup

Prerequisites

Before completing these tasks, you should have a solid understanding of the Oracle Cloud Infrastructure (OCI) Identity and Access Management system. For additional information, see these resources on the Oracle Help Center:

- Understanding Identity Concepts
- Identity and Access Management Tutorial (Oracle Cloud account required)
- Identity Access Manager with Identity Domains

You must also complete these steps before you continue with the tasks listed in this chapter:

1. Log in to your Fusion applications identity domain in your Oracle Cloud Infrastructure account. You can get this link from your welcome email. If you have questions about which tenancy and domain to log in to, contact My Oracle Support.

2. Go to **Settings** and then select **Session Settings**.

3. In the **Customer endpoint settings** section of the form, verify that the following option is deselected. This option is selected by default.

   - Enable Session Picker for OCI Console

4. Click the **Save Changes** button.

Additionally, you must gather the following information, which you will need to complete the SSO configuration:

- Oracle Fusion application URL.
- Administrator user credentials for Oracle Fusion applications.
- Oracle Fusion identity domain URL.
- Administrator user credentials for Oracle Fusion identity domain.
- Customer Cloud Service URL.
- Customer Cloud Service identity domain URL.
- Administrator user credentials for Customer Cloud Service identity domain.

If you need assistance gathering this information, contact My Oracle Support or your delivery team.

Set Up Customer Cloud Service Identity Domain as Service Provider in Fusion Applications Identity Domain

Your system administrator completes this task.

1. Log in to your Fusion applications identity domain in your Oracle Cloud Infrastructure account. You can get this link from your welcome email. If you have questions about which tenancy and domain to log in to, contact My Oracle Support.

2. Go to **Applications** and then click **Add** to create a new application.

3. Select **SAML Application**.

4. Complete these fields, and then click **Next:**

   - **Name**

   - **Description**

   - **Enforce Grants as Authorization:** Deselect this option.

5. In the **SSO Configuration** section, complete the following fields. Example values for each field are provided below, using `idcs-xxx.identity.oraclecloud.com` as the basis for the value. You will replace this value with your own information.

   - **Entity ID:** https:// `idcs-xxx.identity.oraclecloud.com:443`/fed

   - **Assertion Consumer URL:** https://`idcs-xxx.identity.oraclecloud.com`/fed/v1/sp/sso

   - **NameID Format:** Select Unspecified from the drop-down list.

   - **NameID Value:** Select Username from the drop-down list.

6. In the **Additional Configurations** section, complete these fields:

   - **Signed SSO:** Assertion

   - **Signature Hashing Algorithm:** SHA-256

   - **Enable Single Logout:** Deselect this field.

7. At the top of the screen, click the **Download the identity metadata provider** button. If applicable, click the **Keep** button to continue.

8. Click the **Download signing certificates button**. If applicable, click the **Keep** button to continue.

9. Make note of the file names you download, as you will need them in the next task.

10. Click **Finish** at the bottom of the screen.

11. On the next screen, click the **Activate** button, then click **Activate Application**.

Set Up Fusion Applications Identity Domain as the Identity Provider in Customer Cloud Service Identity Domain

Your system administrator completes this task.

1. Log in to your Customer Cloud Service identity domain in your Oracle Cloud Infrastructure account. You can get this link from your welcome email. If you have questions about which tenancy and domain to log in to, contact your Oracle Support team.

2. In the navigation pane, select **Security**, and then select **Identity providers**.

3. Click the **Add IdP** dropdown button and select **Add SAML IdP**.

4. On the **Add SAML identity provider** screen, complete these fields, and then click **Next**:

   - **Name**

   - **Description** (optional)

   - **Icon** (optional)

5. Choose **Import Metadata** and upload the metadata file from the previous task.

6. In the **Configure IdP** section, select the **Import identity provider metadata** button, and then select the file you downloaded in the previous task.

7. Click **Next**.

8. Under **Map attributes**, complete the following fields as described:

    • In the **Identity provider user attribute** area, select **Name ID**.

    • In the **Identity domain user attribute** field, select **Username**.

    • In the **Requested NameID format** field, select **Unspecified**.

9. Click the **Create IdP** button.

10. In the **Export** screen, click the **Download** button next to **Service provider signing certificate**, and save the file.

11. Click **Next** and do not click anything else before completing the next steps. You will return to this screen later in the process.

12. In a new browser window, log in to your Fusion application identity domain in the Oracle Cloud Infrastructure Console.

13. In the navigation pane, click **Applications**.

14. In the **Applications** screen, click the hyperlink for the Customer Cloud Service application (as service provider) you created previously.

15. Under the **SSO configuration** section, click the **Edit SSO Configuration** button.

16. On the **Edit SSO configuration** screen, scroll down to the **Signing Certificate** field and upload the signing certificate you downloaded in the previous task.

17. Click **Save changes**.

18. Click the **Users** link in the navigation panel under **Resources**.

19. In the **Users** section of the screen, click the **Assign users** button.

20. Select the users you want to assign, and then click the **Assign** button.

21. Scroll to the top of the screen and verify that the application is active. If it is not, click the **Activate** button.

22. Return to the browser window with your Customer Cloud Service identity domain.

23. On the Test IdP screen, click the **Test login** button. You will receive a message indicating whether your test is successful. If there is an error, contact My Oracle Support for assistance. If it is successful, click **Next**.

24. On the Activate IdP screen, click **Activate**.

25. Click **Finish**. You will see a list of identity providers.

26. In the navigation pane, select **IdP policies**.

27. Click the hyperlink for the default identity provider policy.

28. In the **Identity provider rules** section, click the action menu (3 dots) on the record, and select **Edit IdP rule**.

29. On the Edit identity provider rule screen, in the **Assign identity providers** field, click inside the field and select the provider you just created. It will appear in the field next to **Username-Password**.

30. Click the **Save changes** button.

Later, you will test your SSO and verify that it is working as expected. Once you are satisfied with your test, you will return to this screen and remove **Username-Password** from the **Assign identity providers** field. This removes the ability to log in with your local username and password.

Test Your Single Sign On Setup

The identity provider is now active and Single Sign On (SSO) is set up. Now you use Fusion applications to log in for both Oracle Fusion and Customer Cloud Service. All of your log in activities will go through the Fusion applications.

Now you will test your sign on in all systems.

Important Note: Oracle recommends creating and using test users to perform your SSO verification. If there are issues with your test, using your administrator credentials could result in your administrator being locked out.

This table outlines the steps required to create test users in each system:

Create a Test User in This System	Details
Fusion Applications	1. Log in to Fusion applications as an administrator and click **User**.
	2. On the Add User Account screen, complete the fields necessary to create a user with a user name and password.
	3. Click **Add Role**, and select one of the roles used with this solution. For example, select Customer Service Representative.
	4. Click **Done**.
	5. In the **Account Information** section, verify that the user is set to **Active**.
	6. Click **Save and close**.
Fusion Applications Identity Domain	1. Log in to your Fusion applications identity domain in your Oracle Cloud Infrastructure account. You can get this link from your welcome email. If you have questions about which tenancy and domain to log in to, contact your Oracle Support team.
	2. Click **Identity and Security** in the navigation pane, and then click **Domains**.
	3. Click **Users** in the navigation pane.
	4. Click the **Create User** button.
	5. Complete the fields necessary to create a new user, using the same information you used in the previous task.
	6. Click the **Create** button.

Create a Test User in This System	Details
Customer Cloud Service Identity Domain	1. Log in to your Customer Cloud Service identity domain in your Oracle Cloud Infrastructure account. You can get this link from your welcome email. If you have questions about which tenancy and domain to log into, contact your Oracle Support team.
	2. Click **Identity and Security** in the navigation pane, and then click **Domains**.
	3. Click **Users** in the left navigation pane.
	4. Click the **Create User** button.
	5. Complete the fields necessary to create a new user, using the same information you used in the previous task.
	6. Click the **Create** button.
	7. Return to the Identity Domain screen and click **Oracle Cloud Services** in the navigation pane.
	8. Find the Customer Cloud Service application environment and select it.
	9. Select **Application roles** in the navigation pane.
	10. On the **AppUser** row, click the action menu (3 dots) and then click **Assign Users**. Locate and select the user you just created, and then click **Assign**.
	11. On the **AppWebServices** row, click the action menu and then click **Assign Users**. Locate and select the user you just created, and then click **Assign**.
	12. Wait for cache to be refreshed. Typically, this takes about 15 minutes. This is required for the assignments to be recognized by Customer Cloud Service.

Using your test users, complete these steps to test your SSO.

To test the sign on in all systems:

1. Using the URL you received in your welcome email, log in to Fusion Applications as the test user.

2. Using the URL you received in your welcome email, log in to Customer Cloud Service as the test user.

3. If these attempts are successful, your test is complete.

4. Using the instructions provided in Set Up Fusion Applications Identify Domain as the Identity Provider in Customer Cloud Service Identity Domain, remove **Username-Password** from the **Assign identity providers** field. This removes the ability to log in with your local user name and password.

7

Configure User Synchronization

To configure users, and enable all users to use single sign on (SSO) to access both your Oracle Utilities system and Oracle Fusion systems, you must ensure that users have been synchronized to the appropriate identity domains.

The tasks in this chapter are performed by the system administrator. Once these tasks are complete, all users will sign into the system through the Fusion applications identity provider using their SSO credentials.

The steps that are outlined in this chapter are intended to provide you with an example of how you can set up your user synchronization process. This process can vary depending on your environment, identity domain setup, and which Oracle Utilities system you are using. This chapter uses Oracle Utilities Customer Cloud Service to explain this process.

The supported user synchronization process consists of these main steps:

Figure 7-1   User Synchronization Steps

To configure user synchronization, your system administrator must complete the following tasks, as depicted in the above image:

- **Step 1:** Migrate existing Customer Cloud Service users to Fusion applications identity domain.

- **Step 2:** Synchronize users from Fusion applications identity domain to the Customer Cloud Service identity domain.

- **Step 3:** Synchronize users from Fusion applications identity domain to the CX Industry Framework identity domain.

> **✎ Note:**
>
> The steps in this chapter should be completed in conjunction with the steps in the Configure Single Sign On chapter, in the following order. If you do not follow this order, some users could lose access to the system until all steps are complete.
>
> 1. Set up your single sign on.
> 2. Test your single sign on.
> 3. Turn it off and complete the steps in this chapter.
> 4. Turn on single sign on.

Once all of the steps in this chapter are complete, your user community should exist as shown here. Going forward, you will create all new users in Oracle Fusion. See Manage Users and Roles for additional information.

Figure 7-2   Where Users Exist

In this chapter:

- [Prerequisites](#)
- [Migrate Existing Oracle Utilities Users to Fusion Applications](#)
- [Synchronize Users Between Fusion Applications Identity Domain and Oracle Utilities](#)
- [Assign User Access in Oracle Utilities](#)
- [Synchronize Users Between Fusion Applications and CX Industry Framework Identity Domain](#)
- [Assign User Access in CX Industry Framework](#)

Prerequisites

Before completing these tasks, you must gather the following information, which you will need to complete the user synchronization configuration:

- Oracle Fusion application URL
- Administrator user credentials for Oracle Fusion applications
- Fusion identity domain URL
- Administrator user credentials for Fusion identity domain
- Customer Cloud Service URL
- Customer Cloud Service identity domain URL
- Administrator user credentials for Customer Cloud Service identity domain
- Customer Experience Industry Framework identity domain URL
- Administrator user credentials for Customer Experience Industry Framework identity domain

If you need assistance gathering this information, contact My Oracle Support or your delivery team.

After you gather this information, complete the following task to create and OAuth client before continuing with your user synchronization setup.

Create OAuth Client in Fusion Applications Identity Domain

To create OAuth client in Fusion Applications identity domain, complete these steps:

1. Log into your Fusion application identity domain in your Oracle Cloud Infrastructure account. You can get this link from your welcome email. If you have questions about which tenancy and domain to log in to, contact your Oracle Support team.
2. Create a new application by selecting **Integrated Applications** in the navigation pane, and then click the **Add application** button.
3. Select **Confidential Application** and then click the **Launch workflow** button.
4. On the **Add Application Details** screen, complete these fields:
   - Name Description (optional)
   - Application icon (optional)
5. Click **Next**.
6. Select **Configure this application as a client** row on the **Configure OAuth** screen.
7. In the **Allowed grant types** section, select these options:
   - Client credentials
   - Allow non-HTTPS URLs
8. In the **Token issuance policy** section, select the **Add app roles** option.
9. In the **App Roles** section, click on **Add roles** In the **Add app roles** window, and then select the **User Administrator** option.
10. Click **Add** and then click **Next**.

11. In the **Configure policy** screen, select the **Skip and do later** option under **Web tier policy**, and then click **Finish**.

12. Under **General Information**, copy the **Client ID** and **Client Secret** to use later in the setup process.

13. Click **Activate** and then click **Activate application**.

Migrate Existing Oracle Utilities Users to Fusion Applications

Utilities that are adding CX for Utilities to their existing Customer Cloud Service implementation must migrate their existing Customer Cloud Service users to Fusion applications. By bringing all users into Fusion, you ensure that access to Customer Cloud Service continues uninterrupted after switching to the Single Sign On (SSO).

To migrate your existing Oracle Utilities users to Oracle Fusion applications, complete these steps:

1. Export your Oracle Utilities users to Oracle Cloud Infrastructure Identity Access Manager (OCI IAM). See the IAM with Identity Domains library in Oracle Help Center for information about using OCI IAM.

2. Import your Oracle Utilities users into Fusion Applications using the Import Management tool. To complete this task, you must sign into Oracle Fusion as an administrator, and complete the steps listed in the "Import Your Resource Data" chapter of the Understanding Import and Export Management for Sales and Fusion Service Guide, available in the Oracle Sales library, located in the Oracle Help Center.

3. Complete the steps listed below to assign your imported users to the appropriate roles.

The steps in this topic are written for Oracle Utilities Customer Cloud Service. If you are using another Oracle Utilities customer information system, you can use these steps as a basic guide, but refer to the documentation for your identity management system to determine how to complete these steps for your implementation. Contact your implementation team for additional assistance.

Assign Roles to Imported Users

After you have imported your users, you should assign users to one or more roles related to CX for Utilities. The role assignment can be completed by using either Fusion Applications Security Console or Fusion Applications using the Import Management tool.

The following roles are available in your provisioned Oracle Fusion applications environment:

• ORA_UER_UTILITIES_CUSTOMER_SERVICE_MANAGER_JOB

• ORA_UER_UTILITIES_CUSTOMER_SERVICE_REPRESENTATIVE_JOB

• ORA_UER_UTILITIES_CUSTOMER_SERVICE_ADMINISTRATOR_JOB

• ORA_UER_UTILITIES_CUSTOMER_SERVICE_USER_SYNCHRONIZATION_JOB (use this role for Customer Cloud Service users who do not need access to Fusion applications.)

• ORA_UER_UTILITIES_KEY_ACCOUNT_ADMINISTRATOR

• ORA_UER_UTILITIES_KEY_ACCOUNT_MANAGER_FOR_SALES

• ORA_UER_UTILITIES_KEY_ACCOUNT_MANAGER_FOR_SERVICE

• ORA_UER_UTILITIES_KEY_ACCOUNT_SUPERVISOR_FOR_SALES

• ORA_UER_UTILITIES_KEY_ACCOUNT_SUPERVISOR_FOR_SERVICE

Synchronize Users Between Fusion Applications Identity Domain and Oracle Utilities

Complete these steps to enable the automatic synchronization of Fusion users and Oracle Utilities users between Fusion applications and Oracle Utilities. This includes:

- Configuring the application
- Testing the Configuration

Before completing these steps, verify that you have completed the tasks in the Prerequisites section, including the Create OAuth Client task.

Configure the Application

Complete these steps to enable the automatic synchronization of Fusion users and Oracle Utilities users between Fusion applications and Oracle Utilities.

1. Log in to your Customer Cloud Service identity domain in your Oracle Cloud Infrastructure account. You can get this link from your welcome email. If you have questions about which tenancy and domain to log in to, contact your Oracle Support team.

2. Create a new application by selecting **Integrated Applications** in the navigation pane, and then click the **Add application** button.

3. Select **Application Catalog** and then click the **Launch app catalog** button.

4. Search for and select the application named **GenericScim - Client Credentials**.

5. On the **Add application details** screen, complete these fields:
   - **Name Description** (optional)
   - **Application icon** (optional)

6. Click **Next**.

7. Turn On **Enable Provisioning** and click **Confirm**.

8. In the **Configure connectivity** section, complete the following fields:
   - **Host Name:** Enter the Fusion application Identity domain URL hostname portion without http://. For example, myFAhostname.oraclecloud.com
   - **Base URI:** /admin/v1/.
   - **Client ID:** Client ID copied in Create OAuth Client in Fusion Applications Identity Domain step
   - **Client Secret:** Client Secret copied in Create OAuth Client in Fusion Applications Identity Domain step
   - **Scope:** urn:opc:idm:_myscopes_
   - **Authentication Server URL:** Enter the Fusion application Identity domain token URL. For example, https://myFAhostname.oraclecloud.com/oauth2/v1/token

9. Click on **Test connectivity** to test the connection to Fusion application identity domain.

10. In the **Select Provisioning Operations** section, complete these fields:
    - **Authoritative sync**: Select this option.
    - **Create an account:** Select this option.

- **Update account:** Select this option.

- **Deactivate account:** Select this option.

- **Delete account:** Deselect this option

- **Push user updates:** Deselect this option

- **Push user activation/deactivation status:** Select this option.

11. Turn on **Enable Synchronization**.

12. Scroll up to view the **Configure Attribute Mapping** section, and click the **Attribute mapping** button.

13. On the **Attribute mapping** screen, select the **Application to identity domain** option.

14. Locate the row with the User column value set to **Federated** and modify the source value in the left column to be **true** where it says **false**.

15. Click the **Save changes** button, which returns you to the previous screen.

16. In the **Configure synchronization** section, complete the **Synchronization Schedule** field with the frequency you want to use for synchronization. The recommended value is **Every hour**.

17. Click **Save changes**.

18. When you are ready to either test the synchronization, or make the synchronization live, Click **Activate** and continue to the next task.

Test the Synchronization

This process includes importing users and groups that you want to synchronize, and tests the synchronization setup to ensure that the users are being synchronized between applications.

1. Log in to Fusion applications as an administrator.

2. Select **Tools** and then select **Security Console**.

3. Create several test users.

4. Return to the Customer Cloud Service identity domain.

5. Scroll down to the **Resources** section in the navigation panel and select **Import**, and then click the **Import** button.

6. The message on the screen indicates that the import job has been submitted and is running.

7. Refresh the screen until the Import status changes to **Complete**.

8. Go back to the main screen to verify that users were successfully copied from the Fusion applications identity domain.

9. In the navigation pane, click **Users** and verify that the users you expect to see are available.

10. If you are not ready to perform the full user synchronization, remove the test results by completing these steps:

    - Deactivate the application created in the previous task.

    - Delete all users that were migrated from the Fusion applications identity domain.

11. If you deactivate the application, you will need to reactivate it and complete the steps to import the users again when you are ready to make the synchronization live.

Assign User Access in Oracle Utilities

This section discusses how to authorize the synchronized CX for Utilities Agent Service and CX for Utilities Sales users to access your Oracle Utilities data and applications.

> ✎ **Note:**
>
> The steps in this topic are written for Oracle Utilities Customer Cloud Service. If you are using another Oracle Utilities customer information system, refer to the documentation for your identity management system to determine how to complete these steps for your implementation. Contact your implementation team for additional assistance.

The authorization must be configured in both the Customer Cloud Service identity domain and from within the Customer Cloud Service application.

In the Customer Cloud Service identity domain, the users must be assigned to the appropriate roles in the application that represents your Customer Cloud Service environment. The role assignment is done directly or indirectly by groups.

- **Direct assignment:** Use this approach for scenarios where a limited number of new users are added occasionally. For example, use this method during the implementation phase.
- **Indirect assignment via groups:** Use this approach for scenarios where large numbers of users are on-boarded, or when new users are added on the regular basis. For example, use this approach for ongoing production user management. When using this approach:
  - Consider creating one or more groups in Customer Cloud Service identity domain before you begin and assign these groups to the application roles.
  - Then add newly synchronized users to the group(s), which automatically provides these users with access to Customer Cloud Service. For more details on user access management for Customer Cloud Service, see the *Cloud Service Administration Guide*, available in the Customer Cloud Service library.

These two roles are required for the access to CX for Utilities Agent Service and CX for Utilities Sales features:

- AppUser
- AppWebService

To assign an individual user or a group to the Application Role in Customer Cloud Service, complete these steps:

1. Log in to your Customer Cloud Service identity domain in your Oracle Cloud Infrastructure account. You can get this link from your welcome email. If you have questions about which tenancy and domain to log in to, contact your Oracle Support team.

2. Select **Oracle Cloud Services** and then select your Customer Cloud Service application that represents your environment. For example, **CCS-DEV12-(ABCDEF)**.

3. Select the **Application roles** tab. You will complete these steps for both the **AppUser** and the **AppWebServices** roles:

   a. Select the action menu on the application role that you want to assign the user or group to, and then click **Assign groups** or **Assign users**.

    b. On the next screen, search for and select the utility agent groups or users you want to assign to the role, and then click the **Assign** button.

4. Now log in to your Customer Cloud Service system as an administrator.

5. Complete the steps provided in the topic "Configuring Just In Time Provisioning" in the *Cloud Service Administration Guide*, which is available in the Customer Cloud Service library. You will set up the template users for the various utility agent roles and assign these templates to the corresponding Identity Domain groups.

Synchronize Users Between Fusion Applications and CX Industry Framework Identity Domain

Complete these steps to enable the automatic synchronization of CX for Utilities users between Fusion applications and the CX Industry Framework identity domain. This includes:

- Configuring the application
- Testing the Configuration

Before completing these steps, verify that you have completed the tasks in the Prerequisites section, including the Create OAuth Client task.

Configure the Application

Complete these steps to enable the automatic synchronization of CX for Utilities users between Fusion applications and the CX Industry Framework identity domain.

1. Log in to your CX Industry Framework identity domain in your Oracle Cloud Infrastructure account. You can get this link from your welcome email. If you have questions about which tenancy and domain to log in to, contact your Oracle Support team.

2. Create a new application by selecting **Integrated Applications** in the navigation pane, and then click the **Add application** button.

3. Select **Application Catalog** and then click the **Launch app catalog** button.

4. Search for and select the application named **GenericScim - Client Credentials**.

5. On the **Add application details** screen, complete these fields:
    - **Name Description** (optional)
    - **Application icon** (optional)

6. Click **Next**.

7. Turn On **Enable Provisioning** and click **Confirm**.

8. In the **Configure connectivity** section, complete the following fields:
    - **Host Name:** Enter the Fusion application Identity domain URL hostname portion without http://. For example, myFAhostname.oraclecloud.com
    - **Base URI:** /admin/v1/.
    - **Client ID:** Client ID copied in Create OAuth Client in Fusion Applications Identity Domain step
    - **Client Secret:** Client Secret copied in Create OAuth Client in Fusion Applications Identity Domain step
    - **Scope:** urn:opc:idm:_myscopes_

- **Authentication Server URL:** Enter the Fusion application Identity domain token URL. For example, https://myFAhostname.oraclecloud.com/oauth2/v1/token

9. Click on **Test connectivity** to test the connection to Fusion application identity domain.

10. In the **Select Provisioning Operations** section, complete these fields:

   - **Authoritative sync**: Select this option.

   - **Create an account:** Select this option.

   - **Update account:** Select this option.

   - **Deactivate account:** Select this option.

   - **Delete account:** Deselect this option

   - **Push user updates:** Deselect this option

   - **Push user activation/deactivation status:** Select this option.

11. Turn on **Enable Synchronization**.

12. Scroll up to view the **Configure Attribute Mapping** section, and click the **Attribute mapping** button.

13. On the **Attribute mapping** screen, select the **Application to identity domain** option.

14. Locate the row with the User column value set to **Federated** and modify the source value in the left column to be **true** where it says **false**.

15. Click the **Save changes** button, which returns you to the previous screen.

16. In the **Configure synchronization** section, complete the **Synchronization Schedule** field with the frequency you want to use for synchronization. The recommended value is **Every hour**.

17. Click **Save changes**.

18. When you are ready to either test the synchronization, or make the synchronization live, Click **Activate** and continue to the next task.

Test the Synchronization

This process includes importing users and groups that you want to synchronize, and tests the synchronization setup to ensure that the users are being synchronized between applications.

1. Log in to Fusion applications as an administrator.

2. Select **Tools** and then select **Security Console**.

3. Create several test users.

4. Return to the CX industry framework identity domain.

5. Scroll down to the **Resources** section in the navigation panel and select **Import**, and then click the **Import** button.

6. The message on the screen indicates that the import job has been submitted and is running.

7. Refresh the screen until the Import status changes to **Complete**.

8. Go back to the main screen to verify that users were successfully copied from the Fusion applications identity domain.

9. In the navigation pane, click **Users** and verify that the users you expect to see are available.

10. If you are not ready to perform the full user synchronization, remove the test results by completing these steps:

    • Deactivate the application created in the previous task.

    • Delete all users that were migrated from the Fusion applications identity domain.

11. If you deactivate the application, you will need to reactivate it and complete the steps to import the users again when you are ready to make the synchronization live.

Assign User Access in CX Industry Framework

This section discusses how to authorize the synchronized CX for Utilities users to access services and features of the CX Industry Framework. This step should be performed manually after each scheduled user synchronization.

1. Return to the application referenced in step 3 above (in the *Activate the Synchronization Process* task). The name likely starts with **CXIF**, and the description likely reads *CXIF IDCS Application*.

2. Select **Application roles** to display the list of roles.

3. Assign newly synchronized users to the role with the name ending in **Configuration_Endpoint_Read**.

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Perform Connectivity Test

After you have completed the initial setup steps, you should test your setup to make sure that each of the systems included in your solution are connected. After you have verified that your systems are properly connected, you can continue with the tasks associated with full configuration of each system to meet your business needs.

When performing a connectivity test, you should create a very basic Person record in your Oracle Utilities customer information system. This record should contain only the required fields that are needed to create the record and synchronize it to the Oracle Fusion system.

To complete the connectivity test:

- Create a basic Person record in your Oracle Utilities customer information system. If you are implementing CX for Utilities Agent Service, create a Person of type Person. If you are implementing CX for Utilities Sales, create a Person of type Business.

- Log in to your home page.

- Depending on which experience you are implementing, complete one of the following steps:

    – CX for Utilities Agent Service: Access the Customer List and search for the record you created.

    – CX for Utilities Sales: Access the Business List and search for the record you created.

- Access Customer 360.

For instructions and additional information about these tasks, see the User Documentation section of the Oracle Utilities Customer Experience library.

9
Configure Your Oracle Utilities System

Before you can use CX for Utilities applications, you must ensure that the related features are set up appropriately in your Oracle Utilities system. The following information identifies each item that needs to be set up, provides implementation details, and refers you to related documentation that can assist you.

All of the documentation listed in this topic (unless otherwise noted) can be found in these libraries in the Oracle Help Center, along with additional information about using and configuring your Oracle Utilities system:

- Customer Cloud Service library
- Customer to Meter library

Task	Details	Documentation
Configure Insights	Contextual Insights provide a powerful way to surface focused intelligence and alerts to users in the context of their customers. Customer insights are configured in your Oracle Utilities system, and can be displayed as noted below.	See Configuring Insights in your Customer Information System
Configure Person Data Options	You can store customer data that is important for your business process, such as, but not limited to: • Name types • Contact routing • Contact types • Contact status • Other required or optional characteristics You must configure the administration data so that the appropriate types of customer information can be stored with person and business records within your Oracle Utilities system.	See these topics in the *Administration Guide*: • Setting Up Person Options • Defining Characteristic Types
Configure Notification Preferences	You can configure notification types for sending messages out of your Oracle Utilities system and maintaining customers' communication preferences for receiving these messages. Once these communications are configured, you can set notifications preferences for each of the customer's billing accounts.	See Setting Up Notification Preference Options in the *Administration Guide*

Task	Details	Documentation
Configure To Do Types	Customer service agents need access to service requests and to do entries from their Work Queue. To get the to do entries to display, you must complete the following tasks so that agents have access to the appropriate to do entries: • Configure to do types • Configure to do roles Once this configuration is complete, agents can view and manage accessible to do entries from the Work Queue or from within your Oracle Utilities system.	See Defining To Do Types in the *Business User Guide*
Configure Start, Stop, and Transfer Processes	Processes to start, stop, or transfer service can be launched after creating or identifying a customer record in the Customer List. To enable these processes, you must configure customer service request types that are used to orchestrate customer service processes related to service agreements and contracts at customer service locations.	See Setting Up Customer Service Request Types in the *Administration Guide*
Inbound Web Services (APIs)	The following information is integrated into CX for Utilities using inbound web services: • Person synchronization • Person context • Customer activity history • Work queue items Inbound web services in the web service category of **Customer Experience** should be set to active for the message options so that they can be used in CX for Utilities. This web service category includes values of C1-CX, D1-CX, and X1-CX.	See Inbound REST Web Services in the *Administration Guide*

Task	Details	Documentation
Schema Constants	Some optional Fusion features rely on schema constants to reference specific administrative entities configured by the customer. Schema constants are defined on a Feature Configuration record of type **Schema Constants**. • If your implementation assigns a name to billing accounts using an account characteristic, reference the corresponding characteristic type as the **Account Name Characteristic Type** schema constant. • If your implementation captures the geocode of a premise using a geographic type, reference the code of this geographic type record as the **Lat/Long Geographic Type** schema constant.	See Defining Feature Configurations in the *Framework Administrative User Guide*
Extendable Lookups	This task should have been completed during initial setup. Extendable lookups are used to control some items within CX for Utilities, such as: • Available locations for knowledge icons • The ongoing person data integration Use the extendable lookup with a business object of **F1-KnowledgeManagement** to identify available locations to attach articles. The person synchronization is controlled by an **F1-DataSyncControl** extendable lookup business object of **C1-CX4U-PERSON**. The status of this lookup record must be active to enable the synchronization and the external system and message sender must be configured.	See Defining Extendable Lookups in the *Administration Guide*

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Task	Details	Documentation
Data Synchronization	This task should have been completed during initial setup. Person data synchronization is used to trigger updates to CX for Utilities and other Oracle systems when person record changes are made. To set up the synchronization, be aware that: • The maintenance object of **PERSON** is delivered with a generic audit algorithm of **F1ONGDATASYN** for ongoing data synchronization plugged in so that a generic outbound sync request can be processed by the **F1-SYNRQ** sync request monitor batch process. • This batch process should be scheduled to run as frequently as ongoing updates need to be synchronized to CX for Utilities and other systems. • This is a generic batch process that can be used for many objects but has parameters that can be used to control which sync request BOs to process, such as **F1-GenericDataSync**.	See: • Data Synchronization in the *Administration Guide* • Configure Data Synchronization
Populating Old Account ID	If your utility converts from one CIS to an Oracle Utilities CIS, you can store account ID numbers from your legacy system in the 'Old Account Id' field (table field name **OLD_ACCT_ID**). This field is used in the Utilities CIS system to ensure that payments made after a conversion are attributed to the correct accounts. In CX for Utilities Agent Service, the Prior Billing Account ID search parameter in the Person and Premise Search will return valid results only if this field is populated in your CIS.	See: • Use the Person and Premise Search • Service Agreement - Main Information in the *Business User Guide*

Task	Details	Documentation
Configure Activity Types	Use the Master Configurations in your Oracle Utilities Customer Information System to define the activity categories and types that you want to display in the activity history in CX for Utilities.	See: • Customer 360 - Customer Activity in the *Business User Guide*
Configure Online Bill Display	If you want your agents to be able to view a PDF version of the customer's bill from the Bill Drawer, you need to set up online bill viewing in your Oracle Utilities Customer Information System. If the view is available in your CIS, it will be passed to the Customer Dashboard.	See: • Technical Implementation Of Online Bill Display in the *Business User Guide*

In this section:

• Configuring Insights in Your Utilities CIS

Configuring Insights in Your Utilities CIS

Contextual Insights provide a powerful way to surface focused intelligence and alerts to users in the context of their customers. Customer insights are configured in multiple places to function properly, including:

• In your Oracle Utilities system

• In your Utilities Admin REST API

• In Functional Setup Manager

Insights can appear in different locations across the Customer Experience for Utilities solution, as noted here:

If you are using...	Insights are displayed...
Customer 360 to view customer information in CX for Utilities Agent Service	• Within Customer 360 zones such as Customer Insights. • In the Program Enrollments zone. • Inline to provide customer context. • Within Start/Stop/Transfer process panels.
Customer Dashboard to view customer information in CX for Utilities Agent Service	On the Overview tab of the Customer Dashboard
CX for Utilities Sales	On the Overview tab in Account 360.

Configure any required insight types and associate them with an insight group. The insight group must reference a unique insight class. The insight classes are defined using a lookup field of INSIGHT_CLASS_FLG.

For insights that are used in the Overview tab of Account 360 or the Customer Dashboard, you can create the insight groups and insight types that are used in the REST API by default, or you can create your own, and update the values in the REST API to reflect your new insight groups and types.

This table provides the default values for insight types:

Display Location	Default Values
CX for Utilities Sales Account 360 Overview tab	The default insight types are: • C1-PER-NONPAY-CARD • C1-ACCT-PASTDUE-CARD
CX for Utilities Agent Service Customer Dashboard Overview tab	The default insight types are: • C1-ACCT-COLL-CARD • C1-ACCT-PAYAGREE-CARD • C1-ACCT-SEV-CARD

This table provides the default values for insight groups:

Display Location	Default Values
CX for Utilities Sales	The default insight groups are: • C1XA: Billing account insights • C1XP: Oracle Fusion account insights
CX for Utilities Agent Service using the Customer Dashboard	The default insight group is: • C1XC: Customer Dashboard Agent Insights

Once these insight groups and types are defined in your customer information system, you can complete the required setup using REST APIs. See Customer Experience for Utilities Configuration Tasks for additional details on which insight types and insight groups to set up to match the default API settings, and how to edit the settings if you create new ones.

For instructions on adding your insight group, see the steps below. For additional information about setting up insights in your Oracle Utilities Customer information system, see "Contextual Insights" in the *Administration Guide* one of these libraries:

• Customer Cloud Service library

• Customer to Meter library

Adding An Insight Group In Your Customer Information System

1. From your Utilities Customer Information System, search for "Add Insight Group" in the Search menu.

2. Complete the following fields as noted:

   • **Insight Group:** CX4U-ACCT-AGENT

   • **Description:** CX Billing Account Insights-Agent

   • **Insight Class:** CX Billing Account Insights-Agent

   • **Valid Visual Structures:** Card Insight

3. Click Save.

4. Under Related Insight Types, Click Edit and add the following insight types:

   • Account Collection Active Card

   • Account Pay Agreement Card

   • Account Severance Active Card

5. Click Save.

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Configure Fusion Applications

Before you can use CX for Utilities, you must ensure that the related features are set up appropriately in the Oracle Sales in the Redwood Experience, Oracle Fusion Service, and Oracle CX Industry Framework systems. This chapter identifies each item that needs to be set up, if there are any specific data requirements, and refers you to the documentation that can assist you.

For additional information about implementing, configuring, and using these systems, see the following libraries in the Oracle Help Center:

- Oracle Fusion Service library
- Oracle Sales library
- Oracle Intelligent Adviser library

In this chapter:

- Adaptive Search Tasks
- Account Hierarchy Tasks
- Computer Telephony Integration Tasks
- Email Channel Tasks
- Knowledge Management Tasks
- Oracle Intelligent Advisor Tasks
- Service Request Tasks

Adaptive Search Tasks

To ensure that all features are functioning as designed, you must complete the following Adaptive Search tasks.

For more information about Adaptive Search, and instructions to enable business objects, see "Adaptive Search Setup" in the *Implementing Sales Guide*, available in the Oracle Sales library.

Table 10-1   Adaptive Search Tasks

Task	Description
Enable the following business objects for Oracle Fusion Adaptive Search: • Contact • Account	This task is required before you can use search capabilities in CX for Utilities applications.

Table 10-1   (Cont.) Adaptive Search Tasks

Task	Description
Enable the OpportunityType field for the Opportunity object.	This task is required in order to view all contract renewal opportunities when you click the View All link from the Redwood Sales Dashboard. A system administrator must complete these steps: 1. Log in to Oracle Fusion and select Setup and Maintenance from the menu. 2. Search for Configure Adaptive Search and then select Setup. 3. Click Advanced and search for the Opportunity object. 4. In the Fields section, search for Opportunity Type. 5. Enable the Opportunity Type field. 6. Complete the steps to fully publish your changes.

Before you can use search capabilities in CX for Utilities applications, you must enable the following business objects for Oracle Fusion Adaptive Search:

• Contact

• Account

For more information about Adaptive Search, and instructions to enable business objects, see "Adaptive Search Setup" in the *Implementing Sales Guide*, available in the Oracle Sales library.

Account Hierarchy Tasks

To enable the account hierarchy view in Account 360 of CX for Utilities Sales, you must complete several tasks to enable rollups. Before completing these tasks, you must have a complete understanding of rollups. Details on rollups, and the tasks listed below, can be found in the Rollups chapter in the *Implementing Sales Guide*.

Task	Description
Set up jobs for rollup data	Configure these jobs in the Oracle Digital Sales system to run at your desired interval: • Refresh Denormalized Data for Account Hierarchy Rollup • Incremental Refresh

Task	Description
Enable and publish metrics	Verify that the following metrics are enabled and published:

Metric	Source	Related Object
Total Open Activities	Account	Activity
Total Open Service Requests	Account	Service Request
Total Open Critical Service Requests	Account	Service Request
Total Open Opportunities	Account	Opportunity
Total Potential Revenue from Open Opportunities	Account	Opportunity
Total Open Leads	Account	Sales Lead
Total Potential Revenue from Open Leads	Account	Sales Lead

Task	Description
Run full refresh	After publishing new metrics, run a full refresh. Going forward, your scheduled jobs will maintain account hierarchy data to incorporate the future changes.

Computer Telephony Integration Tasks

Complete these tasks related to Computer Telephony Integration (CTI) features. Use the links listed in the Documentation column to access detailed information about each task. Additionally, you can review the How Do I Use Computer Telephony Integration? Guide, available on Oracle Help Center.

Task	Description	Documentation
Enable the Redwood User Interface	Ensure that the Redwood user interface is available on the environment. This setup is required to simulate a call for agent assistance.	See the following topic: • Enable the Redwood User Interface
Configure the Media Toolbar and Profiles	You can configure the media toolbar and define profile options to enable the media toolbar.	See the following topic: • Configure the Computer Telephony Integration

Task	Description	Documentation
Set Up Pop-Up Windows	To enable agents to answer calls using CTI, you must enable pop-up windows to appear when an agent receives an incoming call. Optionally, you can configure the pop-up window to appear using Oracle UI Events Framework. Oracle UI Events Framework is a client-side library that is supported with the Oracle Service Center. It can be used to customize your Oracle Utilities Customer Experience solution for scenarios that require bi-directional event communication. Some examples of how you can use this framework for your CTI integration include: • Launching specific screen-pop behavior • Triggering logic such as pre-populating page values or creating new records.	See the following topic: • Set Up Pop-Up Windows If you are using UI Event Framework, see How To Use UI Events Framework in the *Implementing Service Center with the Redwood Experience Guide*.
Set Up Communication Channels	You can configure Customer Experience for Utilities to use standard Fusion Service communication channels. Complete this task only if you are using additional communication channels via Oracle Fusion Service.	See the following topics in the Fusion Service library in the Oracle Help Center: • How inbound messages are processed • Configure chat profile options • How you set up social channels
Set Up Oracle Fusion AI Call Features	If your implementation is using either of these AI-related call features, which are part of Oracle Fusion Service, you should review the information provided here to understand the implementation requirements: • AI Generated Wrap-Up Notes • AI Generated Knowledge Article Suggestions	See Set Up Fusion AI Call Features

In this section:

- Enable Redwood User Interface

- Configure Computer Telephony Integration

- Set Up Pop-Up Windows

- Set Up Fusion AI Call Features

Enable Redwood User Interface

Ensure that the Redwood user interface is available on the environment. This setup is required to simulate a call for agent assistance. First you add the Redwood user interface, and then you enable it. For additional information, see the Fusion Service library in the Oracle Help Center.

Add Redwood User Interface for Service Promotion

1. Verify that the **Redwood User Interface for Service** promotion is available in the environment.

2. Log in to the application as an administrator.

3. Go to **My Enterprise > Enterprise**.

4. Click **Manage Promotion Codes.**

5. On the Manage Promotion Codes page, verify whether the **Redwood User Interface for Service** promotion is available.

6. If this promotion isn't available, click **Enter Promotion Code.**

7. Contact Oracle Support to get the promotion code.

8. Enter the promotion code that you receive.

9. Click **Save and Close**. The **Redwood User Interface for Service** promotion is now shown on the page.

10. Click **Done** on the Manage Promotion codes page.

Enable Redwood User Interface

Follow these steps to enable the Redwood User Interface:

1. Go to **My Enterprise > Offerings**.

2. On the Offerings page, select the **Service** offering.

3. Click **Opt In Features**.

4. On the Opt In page, enable the **Redwood User Interface for Service** task.

5. Click **Features**.

6. Enable the **Enable Redwood User Interface for Service** feature.

7. Verify that all the sub-features are also enabled.

8. Click **Done**.

Configure Computer Telephony Integration

If you are using the Oracle Computer Telephony Integration (CTI), you must sign in as an administrator to configure the media toolbar, application classification, and screen pop up. You also set up profile options to enable the media toolbar. For additional information, see the Fusion Service library in the Oracle Help Center.

Note that the use of a CTI system is not required for CX for Utilities systems to function. However, some features might not be available or work as described in this documentation if you are not using an integrated CTI system.

Configure Media Toolbar

As an administrator, you can configure the vertical media toolbar. The media toolbar is displayed in the following ways:

- If the company has enabled partner Computer Telephony Integration (CTI) service.

- When the signed-in user has access privileges to a toolbar.

While configuring the toolbars, you can also configure the incoming call notification window. The notification window displays basic details about the incoming call. As an administrator, you can configure multiple media toolbars, and specify a default.

To configure the media toolbar:

1. Go to **Navigator > My Enterprise > Setup and Maintenance**.

2. In the Setup and Maintenance work area, click the **Tasks** icon.

3. Select **Search** and enter **Manage Media Toolbar Configuration**.

4. Click the **Manage Media Toolbar Configuration** link.

5. On the Manage Media Toolbar Configuration page, click **Add New** to add a toolbar. Enter a name for the toolbar.

6. From the **Status** options, select **Enabled** to make the toolbar active. If a default toolbar is already specified, this field is disabled by default.

7. Select the **Redwood** layout. The layout is selected as Embedded (Horizontal) by default.

8. Enter the domain name. This configuration entry will help you in URL redirection. If you enter the domain name in the **Domain Name** field, then the application allows cross-origin requests from hosts within the same primary domain or any sub-domain.

9. In the **Settings** section, Enter the CTI customer URL.

10. Select the recently added toolbar from the list of toolbars and click **Default** to set the toolbar as the default for all the enabled users.

11. Click **Save** or **Save and Close**.

Configure Profile Options to Enable Partner Media Toolbar

The profile option **SVC_PARTNER_MEDIA_TOOLBAR_ENABLED** controls the visibility of the partner media toolbar. If you don't enable this profile option, the partner media toolbar is hidden. You can set this profile option at a site level or at a user level.

For more information, see the Configure Profile Options to Enable Partner Media Toolbar topic in the *Implementing Fusion Service Guide*, available in the Fusion Service library in the Oracle Help Center.

Set Up Pop-Up Windows

You must enable pop-up windows so that when an agent receives an incoming call, a window appears in CX for Utilities applications. The agent can answer the call from this window. For additional information, see:

- The Fusion Service library in the Oracle Help Center

- How do I configure screen pop pages? in Oracle Fusion Service Questions and Answers

Before you complete the task below, you must disable the predefined lookup record with the application classification set to **ADVANCED CUSTOMER CARE**.

Complete these steps to set up pop-up windows for Customer Experience for Utilities:

1. Log in to the application as an administrator.

2. Go to the Setup and Maintenance work area.

3. Search for **Manage Screen Pop Configuration.**

4. Click **Lookup Filters** on the Screen Pop Configuration page.

5. Go to the row corresponding to **LOOKUPSET** and click the **duplicate** button.

6. Click **Confirm** to create a duplicate entry.

7. Add the following:

   • **Name:** CX4ULOOKUPSET

   • **Application Classification:** ADVANCED CUSTOMER CARE

   • **Active:** Checked

   • **Description:** LookupSet for CX for Utilities Agent Service

8. Verify that contact filters are available under **CX4ULOOKUPSET:FILTERS**.

9. If they are not available, add them manually.

10. Click **Save** or **Save and Close**.

Available Predefined Tokens

Predefined tokens are available in the Tokens section of the Manage Screen Pop Configuration page.

Page	Token
Utilities Service Dashboard	SVCMCA_UTILITIES_SERVICE_DASHBOARD

Set Up Fusion AI Call Features

If you are implementing any of the following Oracle Fusion features, you should review these instructions so you are familiar with the implementation process:

• AI Generated Wrap-Up Notes

  – See Generate Wrap-Up Notes on Oracle Help Center for an explanation of the feature and enablement details.

• AI Generated Knowledge Article Suggestions

  – See Assist Agent Phone Communications on Oracle Help Center for an explanation of the feature and enablement details.

> **✎ Note:**
>
> These features are part of an early adopter program and are made available through a Promotion Code. If you are interested in implementing these features please contact Oracle Support and submit a request. Be aware that these features require a third-party Computer Telephony Integration (CTI) software, and your implementation could vary based on the CTI software you use.

Additionally, you must complete the following setup steps:

1. Review the How Do I Use Computer Telephony Integration? Guide and become familiar with CTI integrations.

2. Enable the media toolbar

3. Configure job roles and privileges

4. Enable the Service Adaptive Intelligence Offering

5. Set profile options

6. Create a Digital Customer Service URL

7. Add a dynamic link for external URL

Configuring Job Roles and Privileges

This table outlines the job roles and privileges that are needed for these features. For additional information about roles and privileges used in CX for Utilities systems, see Manage Roles and Users.

Table 10-2   Job Roles and Privileges

Job Role and Description	Duty Roles	Privileges
Utilities Customer Service Representative	**Generative AI Duty Role:** ORA_SVC_GEN_AI_USER	• **ORA_SVC_WRAP_UP_SUMMARIZATION_PRIV:** Used for access to Wrap Up summary generation • **ORA_SVC_CHAT_COLLABORATION_SUMMARIZATION_PRIV:** Used for generating a chat transcript summary that will be included in chat transfer and conference offers to other agents • **ORA_SVC_CHAT_KM_SUMMARIZATION_PRIV:** Used for generating a knowledge article summary that can be included in a chat conversation • **SVC_ACCESS_SR_SUMMARIZATION_APIS_PRIV:** Used for SR-generated summaries
Utilities Customer Service Manager	**Generative AI Duty Role:** ORA_SVC_GEN_AI_USER	• **ORA_SVC_WRAP_UP_SUMMARIZATION_PRIV:** Used for access to Wrap Up summary generation • **ORA_SVC_CHAT_COLLABORATION_SUMMARIZATION_PRIV:** Used for generating a chat transcript summary that will be included in chat transfer and conference offers to other agents • **ORA_SVC_CHAT_KM_SUMMARIZATION_PRIV:** Used for generating a knowledge article summary that can be included in a chat conversation • **SVC_ACCESS_SR_SUMMARIZATION_APIS_PRIV:** Used for SR-generated summaries

Table 10-2   (Cont.) Job Roles and Privileges

Job Role and Description	Duty Roles	Privileges
Utilities Customer Service Administrator	**Generative AI Duty Role:** ORA_SVC_GEN_AI_US ER	• **ORA_SVC_WRAP_UP_SUMMARIZATION_P RIV:** Used for access to Wrap Up summary generation • **ORA_SVC_CHAT_COLLABORATION_SUM MARIZATION_PRIV:** Used for generating a chat transcript summary that will be included in chat transfer and conference offers to other agents • **ORA_SVC_CHAT_KM_SUMMARIZATION_P RIV:** Used for generating a knowledge article summary that can be included in a chat conversation • **SVC_ACCESS_SR_SUMMARIZATION_APIS _PRIV:** Used for SR-generated summaries

Enable the Service Adaptive Intelligence Offering

To ensure your features are enabled, a user with administration privileges should perform the following steps:

1. Log into Oracle Fusion.

2. Click **Navigator**, then select My Enterprise, and then select Offerings.

3. On the Offerings page, select the **Service** offering.

4. Click the **Opt In Features** button.

5. On the Opt In: Service page, scroll to the **Service Adaptive Intelligence** offering and enable it.

6. Click on the Pencil icon to select specific features within the **Service Adaptive Intelligence** offering.

7. Enable the **Use Generative AI features** in the Service feature.

Set Profile Options

The following profile options must be set correctly to use the AI Generated Knowledge Article Suggestions feature. This setup is not required for the AI Generated Wrap-Up Notes feature.

• **ORA_SVC_SNIPPETS_ENABLED:** Set this option to **true** to enable the AI Generated Knowledge Article Suggestion feature. This profile option can be set at the site level to enable the feature for all users, or at the user level to enable it for individual users.

• **HZ_ENABLE_MULTIPLE_BU_CRM:** Set this profile option to **yes** to enable multiple business units. See How do I enable multiple business units for Help Desk? for additional information.

Creating a Digital Customer Service URL

This topic provides an example of how you might set up a method to share your knowledge articles with customers using external devices, such as sending an article via SMS text messaging. Your implementation might not require a task like this, or might use a different software and process.

If you are using Digital Customer Service (DCS) to create this URL, you must configure Visual Builder Cloud Service in your environment.

> **✎ Note:**
>
> These steps assume you have already enabled Visual Builder Cloud Service and Oracle Identity Cloud Service, and that you have set up your Oracle Fusion Service system.

Follow the steps below to set up the DCS application:

1. Create a Service Developer role and configure Visual Builder Cloud Service for use with Digital Customer Service. See the topics in Set Up Oracle Identity Cloud Service in the *Implementing Digital Customer Service Guide*.

2. Create a basic Digital Customer Service application. See Creating a Basic Digital Customer Service Application in the *Implementing Digital Customer Service Guide*.

3. Stage and publish your application to generate the URL.

4. If you experience CORS errors, add your URL (up through .com) to the following profile options:
   - FAORACLE.ADF.VIEW.ALLOWED_ORIGINS
   - ORA_CORS_ORIGINS

Adding a Dynamic Link for an External URL

URLs that are used to access Knowledge articles are sent to your customers. These customers are not using Oracle Fusion, and therefore, they need a dynamic link to enable them to view the article without using Oracle Fusion.

To generate external URLs for Digital Customer Service, a dynamic link configuration is required.

See Manage Dynamic Links in the *Implementing Knowledge Management with the Redwood User Experience Guide* for details.

Email Channel Tasks

Complete these tasks related to email management features. All of the topics listed in the Documentation column are available in the Oracle Fusion Service library in the Oracle Help Center.

Task	Description	Documentation
Configure Email Channels	In order to send emails directly from Customer 360, you must configure the outbound email channels you are using. You can also: • Configure profiles • Define email templates • Set the from name in outbound emails • Enable links to Knowledge Management articles in emails	Review all of the tasks listed in the "Email Channels" chapter of the *Implementing Fusion Service Guide*.

Knowledge Management Tasks

Complete these tasks related to Knowledge Management features. All of the topics listed in the Documentation column are available in the Oracle Fusion Service library in the Oracle Help Center.

Task	Description	Documentation
Enable Knowledge Management Features	You must set up Knowledge Management so agents and account managers can access and use knowledge articles in service requests and in the Customer Experience for Utilities user interface.	Review all of the tasks listed in the "Enable Knowledge Features" chapter of the *Implementing Knowledge Management Guide*.
Create an article with the article ID **SOL3**	There is a book icon that appears in the Financial Summary section of the Overview tab of the Agent Service experience. When clicked, this article opens the Article Reference drawer, and displays the article with the ID **SOL3** by default. This article should provide agents with the information they need to help them understand the financial information that is displayed in the Financial Summary section of the Overview tab. If no article exists with this ID, the drawer is empty when the user clicks the book icon.	See Overview of Knowledge Articles in the Using Knowledge Management in the Redwood Experience for more information.

Oracle Intelligent Advisor Tasks

Customer Experience for Utilities solutions can be integrated with Oracle Intelligent Advisor (OIA) to enable your sales and service employees to use OIA interviews to gather information from customers or prospects, and provide them with recommended next steps.

You can use OIA with Customer Experience for Utilities to:

- Enable pay plan features in CX for Utilities Agent Service

- Enable needs analysis features in CX for Utilities Sales

Unless otherwise noted, all of the topics listed in this topic are available in the Oracle Intelligent Advisor library. For additional information, see Integrate with Oracle Intelligent Advisor in the *Implementing Service Center with the Redwood User Experience Guide*.

Complete these tasks related to using supported Oracle Intelligent Advisor features in your Customer Experience for Utilities implementation.

Task	Description	Documentation
Oracle Intelligent Advisor configurations	In order to use the delivered pay plan or needs analysis flows, you must complete these tasks: • Configure the OIA Hub for authenticating web-determination APIs • Set the hub URL using the ORA_UER_OIA_HUB_IA_SITE_URL profile option. • Set up a new workspace • Add permissions for specific domain to enable CORS • Upload the schemas and flows in the OIA hub. • Deploy the uploaded flow. Configurations for the Create Pay Plan and Energy Efficiency Program (needs analysis) sample interviews are seeded in the application. If you want to customize the interface or the rules associated with the interview, you must edit the flow and schema, and deploy it again.	For information about setting profile options, see Setting Profile Options. Review the tasks listed in these sections of the OIA library: • Implement Intelligent Advisor • Use Intelligent Advisor • Customize and Extend Intelligent Advisor For a sample payment plan flow and schema, see My Oracle Support Article 2906638.1. For a sample needs analysis flow and schema for an energy efficiency program, see My Oracle Support Article 3007543.1. When using the above articles, download the zip file and then upload the schema and then upload the flow.

Task	Description	Documentation
Update the product table if using the needs analysis sample interview	If you are using needs analysis sample interview, you must update the products table in the interview rules and complete the following tasks: 1. Create each product in Oracle Sales 2. Verify that the ItemNumber matches the productNo from the table. 3. Complete the following required fields: • Name • Description • ExtendedDescriptionOne • DefaultUOM	For additional information see: • Overview of Sales Products in the *Oracle Fusion Cloud Sales Automation Implementation Reference*

Task	Description	Documentation
Add a new needs analysis interview This task assumes the user has knowledge of the Visual Builder and Oracle Intelligent Advisor systems and processes.	1. Create new deployment in OIA hub. 2. Use Visual Builder Studio to extend the Needs Analysis Dashboard page, available in CX for Utilities Sales by adding the interview properties object in the **EXTENDED_OIA_INTERVIEWS** array in the application with the following properties: • **id** (String): Unique identifier of the interview. • **name** (String): Name of the interview. • **description** (String): Description of interview. • **deployment** (String): Deployment name of the interview deployed in hub. • **active** (Boolean): Boolean value that determines whether the interview is active. 3. Add the interview id in the **EXTENDED_INTERVIEW_IDS** array in the page where you want the interview to appear. 4. Custom actions from OIA can be handled using the **OIAcustomDataAction** event available for extension.	For additional information see: • The Oracle Intelligent Advisor library • *Configuring and Extending Applications* in the Applications Common library on Oracle Help Center • The Extending Oracle Cloud Applications with Visual Builder Studio Guide
Update seeded interview properties	To update the name and description of an interview, or to deactivate an interview, add the interview in "EXTENDED_OIA_INTERVIEWS" in the same way as if adding new interviews. For example, use IDs such as ORA_ENERGY_EFFICIENCY for your energy efficiency plan interview or ORA_PAYPLAN for your create pay plan interview.	For additional information see: • The Oracle Intelligent Advisor library

Service Request Tasks

To enable service requests in CX for Utilities applications, you must complete the following configuration tasks. All of the topics listed in the Documentation column are available in the Oracle Fusion Service library in the Oracle Help Center.

Task	Description	Documentation
Enable Multiple Business Units for Service	If not already completed, your system administrator must complete this task before completing any of the additional tasks listed in this table.	See the following topic: • Manage Common CRM BU Profile Options for Service BUs
Configure Service Request Categories	You should fully understand service request categories, and configure the categories you want to use in CX for Utilities. For example, you must create a category for collections service requests if you want to enable collections service requests to appear correctly in CX for Utilities.	See the following topics: • Overview of Service Request Categories • Create a Service Request Category
Configure Service Request Templates	You can configure your service request application pages to include the information you want your utility users to access.	See the following topic: • Overview of Application Pages
Create Service Request Assignment Rules	You can use assignment rules to automatically assign service requests to queues when they are created or updated. These assignment rules can be run on a schedule.	See the following topic: • How you define queue assignment rules
Configure Agent Capacity	You can define capacity rules to indicate the maximum number of open work items of a certain type that an agent can handle.	See the following topic: • Agent capacity

11
Configure the Redwood Sales Interface

If you are implementing CX for Utilities Sales, you must configure your Redwood Sales Account Details page to include the CX for Utilities Sales Account 360 screen as a sub-view of the Account Details page. This configuration enables CX for Utilities Sales to be included as a seamless view of utility-specific information from directly within Oracle Redwood Sales.

To complete the implementation process, you must complete these steps:

1. Set up the Dynamic layout using Visual Builder.
    This step is required only if you have previously customized or extended the Redwood Sales Account Details page. For implementations that are using the out-of-the-box Account Details page, this layout change is delivered with the CX for Utilities Sales solution.

2. Set up the Sub-view Container layout using Visual Builder
    This step is required only if you have previously customized or extended the Redwood Sales Account Details page. For implementations that are using the out-of-the-box Account Details page, this layout change is delivered with the CX for Utilities Sales solution.

3. Create smart actions.

4. Optionally, you can change the name of the Sales Dashboard to Utility Sales Dashboard. See Rename Redwood Sales Dashboard for details.

In this chapter:

*   Add the Account 360 Sub-View to Redwood Sales Account Details Page
*   Add New Fields to the Account Details Header in Redwood Sales
*   Configure Smart Actions

Add the Account 360 Sub-View to Redwood Sales Account Details Page

You can use VB Studio to add the Account 360 template to the SubviewContainerLayout of the Redwood Sales Account Details page (accounts-detail).

This task is required if your implementation meets both of the following criteria:

*   You are implementing CX for Utilities Sales.

*   You have customized or extended the Redwood Sales Account Details page. If you are using the out-of-the-box version of this page, Account 360 is available as a sub-view without completing these steps.

This image shows the Account 360 sub-view displayed within the Redwood Sales Account Details page:

Figure 11-1   Redwood Sales Account 360

The following task explains how to add this template in the SubviewContainerLayout.

This example assumes that the reader is familiar with Redwood Sales account data and understands how to use Visual Builder. For additional information, see:

- Using Account 360 in the *Using CX for Utilities Sales Guide*

- The Visual Builder Library in the Oracle Help Center

- Customizing Dynamic Containers in the *Extending Oracle Cloud Applications with Visual Builder Studio Guide*

Adding the Template to the SubviewContainerLayout

1. Log into CX for Utilities Sales as an administrator.

2. Click the menu at the top right of the page and select **Edit Page in Visual Builder Studio**.

3. Select your workspace and click **Select**. Note that you can also create a new workspace if needed.

4. In the **App UIs** panel, expand Customer Experience CX, then expand Sales, then cx-sales, then accounts, and then select **account-detail**.

5. Select the **Page Designer** sub-tab, then select **Subview Container Layout** from the **Components** panel.

6. Duplicate the required layout or select a duplicated layout (if it exists) based on the use case.

7. Click the **JSON** sub-tab and search for **SubviewContainerLayout**.

8. In the **sectionTemplateMap** of the duplicated layout, add the following:

```
"utilityAccount":

                        "oracle_cx_advancedcustomercareUI/
utilityAccountTemplate"
```

9. In the **displayProperties** add:

```
"utilityAccount"
```

10. To provide the subview name, select the **Variables** sub-tab and then select **subviewLabel** from the **Constants**.

11. Specify the default value as:

```
{"utilityAccount":"[[ $translations.app['account360']]]"}
```

12. Click the **JSON** sub-tab and add the following code at the end:

```
"translations": {
    "app": {
       "path": "faResourceBundle/nls/
oracle.apps.crm.verticals.contactCenter.resource"
    }
  }
```

13. Preview your changes to verify that they look as you expected. This will launch a new tab with the accounts-detail. Validate that Accounts 360 subview is loaded.

14. When your changes are ready for use, complete the steps to publish your changes to your production environment.

The following images show the full list of displayProperties and sectionTemplateMap:

Figure 11-2   Redwood Sales Properties

Figure 11-3   Redwood Sales Properties (Continued)

Add New Fields to the Account Details Header in Redwood Sales

You can use VB Studio to add new utility-specific fields to the header of the Redwood Sales Account Details page (accounts-detail).

This task is required if your implementation meets both of the following criteria:

- You are implementing CX for Utilities Sales.

- You have customized or extended the Redwood Sales Account Details page. If you are using the out-of-the-box version of this page, these fields will appear in your header without completing these steps.

This image shows the Account Details page with the utility-specific **Number of Billing Accounts** field displayed in the header:

Figure 11-4   Header Fields

The following task explains how to add this field to the header layout.

This example assumes that the reader is familiar with Redwood Sales account data and understands how to use Visual Builder. For additional information, see:

- Using Account 360 in the *Using CX for Utilities Sales Guide*
- The Visual Builder Studio library in the Oracle Help Center
- Customizing Dynamic Tables and Forms in the *Extending Oracle Cloud Applications with Visual Builder Studio Guide*

Example: Adding Number of Billing Accounts Field to the Account Details Header

1. Log into CX for Utilities Sales as an administrator.

2. Click the menu at the top right of the page and select **Edit Page in Visual Builder Studio**.

3. Select your workspace and click **Select**. Note that you can also create a new workspace if needed.

4. In the **Layouts** panel, expand Customer Experience CX, then expand Sales, then select **Accounts**.

5. From the **Rule Sets** sub-tab select **Header Layout**.

6. Duplicate the required layout or select a duplicated layout (if it exists) based on the use case.

7. In the duplicated layout, drag and drop the `numberOfBillingAccounts` field into the form template.

8. Select the **JSON** sub-tab and search for **HeaderLayout**.

9. 9. In the **fieldTemplateMap** add:

   `"numberOfBillingAccounts":`

   `"oracle_cx_advancedcustomercareUI/numberOfBillingAccountsTemplate"`

10. Preview your changes to verify that they look as you expected. This will launch a new tab with the Account Details page. Validate that updated layout is loaded and includes the **Number of Billing Accounts** field.

11. When your changes are ready for use, complete the steps to publish your changes to your production environment.

Configure Smart Actions

Many of the options that were available in previous releases of CX for Utilities Sales are no longer options on the screen. User now access these options using the Smart Action bar in the header section of Account 360. This bar is available only when users are viewing an Oracle Fusion account, and is not displayed when viewing a billing account. Smart actions allow your users to access options that can help them manage key accounts. Examples of smart actions include:

- Create Service Request
- Create Lead
- Show Contacts
- Select Billing Account
- View Account Hierarchy
- View Work Queue

To make these options available in the Smart Action bar, you must set them up using REST APIs and the code samples included in the table below.

For additional information on how these Smart Actions are used, see "Using Smart Actions" in the Using Account 360 topic.

Before You Begin

- Using the same user that is used for authentication in rest API, create a Sandbox and activate it.
- https://<host>/crmRestApi/resources/11.13.18.05/smartActionsMetadata and replace <host> with your implementation details.
- Use rest-framework-version 9.
- Be aware that any new strings you add to the user interface should be translated using the User Interface Text Tool. For information, see "Tools for Changing Text" in the *Configuring and Extending Applications Guide*.

Smart Action Code Samples

This table provides code samples that you can use to create several Smart Actions.

Entity	Smart Action and Description	Code Sample

Accounts	**Show Account Hierarchy**
	Opens the Account Hierarchy.
		``
		{
		
		"ConfirmationMessage":
		null,
		
		    "UserActionName":
		"CUST-
		ShowAccountHierarchy-
		accounts",
		
		    "DisplayLabel":
		"Show Account
		Hierarchy",
		
		    "IncludedIn":
		"AccountVO",
		
		"IncludedInApplication":
		 "ORACLE-ISS-APP",
		
		    "Entity":
		"accounts",
		
		    "Href": null,
		
		    "Method": null,
		
		    "ContentType": null,
		
		    "ApplicationRoles":
		null,
		
		    "PageType": null,
		
		"ObjectFunctionName":
		null,
		
		    "ActionIntent":
		"{\"Type\":\"URL\",\"Sub
		Type\":null,\"Target\":\
		"https://<host>/fscmUI/
		redwood/advanced-
		customer-care/main/main-
		start/cf/cf-start/main-
		keyaccounts/main-
		keyaccounts-hierarchy?
		childView=children&curre
		``

Entity	Smart Action and Description	Code Sample
		ntItemId=$ {param1}&currentItemPart yId=$ {param2}&currentSourceSy stemRefValue=$ {param3}&parentItemId=$ {param4}&ultimateParentP artyId=$ {param5}\",\"SubTarget\" :\"SELF\",\"Fulfillment\ ":\"UI\",\"UIAttributeDe faults\": [{\"TargetKey\":\"param1 \",\"SourceKey\":\"Party Number\",\"Value\":null} , {\"TargetKey\":\"param2\ ",\"SourceKey\":\"PartyI d\",\"Value\":null}, {\"TargetKey\":\"param3\ ",\"SourceKey\":\"Source SystemReferenceValue\",\ "Value\":null}, {\"TargetKey\":\"param4\ ",\"SourceKey\":\"Parent AccountPartyNumber\",\"V alue\":null}, {\"TargetKey\":\"param5\ ",\"SourceKey\":\"PartyI d\",\"Value\":null}]}", "UserActionNavigation": [], "UserPrivilege": "[{\"Resource\":\"privil ege:UER_UTILITY_SMART_AC TIONS_PRIV\",\"ResourceT ype\":\"oracle.adf.share .security.authorization. MethodPermission\",\"Act ion\":\"invoke\"}]" }

Entity	Smart Action and Description	Code Sample

Accounts	**View Work Queue**
	
	Opens the Work Queue in CX for Utilities Sales.
		`{`
		
		`"ConfirmationMessage": null,`
		
		`"UserActionName": "CUST-ViewWorkQueue-accounts",`
		
		`"DisplayLabel": "View Work Queue",`
		
		`"IncludedIn": "AccountVO",`
		
		`"IncludedInApplication": "ORACLE-ISS-APP",`
		
		`"Entity": "accounts",`
		
		`"Href": null,`
		
		`"Method": null,`
		
		`"ContentType": null,`
		
		`"PageType": null,`
		
		`"ApplicationRoles": null,`
		
		`"ObjectFunctionName": null,`
		
		`"ActionIntent": "{\"Type\":\"URL\",\"SubType\":null,\"Target\":\"https://<host>/fscmUI/redwood/advanced-customer-care/main/main-start/work-queue\",\"SubTarget\":\"SELF\",\"Fulfillment\":\"UI\"}",`

Entity	Smart Action and Description	Code Sample
		`"UserActionNavigation": [],`
		`"UserPrivilege": "[{\"Resource\":\"privilege:UER_UTILITY_SMART_ACTIONS_PRIV\",\"ResourceType\":\"oracle.adf.share.security.authorization.MethodPermission\",\"Action\":\"invoke\"}]"`
		`}`

Entity	Smart Action and Description	Code Sample
Leads	**Edit billing accounts** Opens the Edit Billing Accounts page for the selected lead.	```{```

```
{

    "ConfirmationMessage":
null,

    "UserActionName":
"CUST-
Editbillingaccounts-
leads",

    "DisplayLabel":
"Edit billing accounts",

    "IncludedIn":
"MklLeadVO",

"IncludedInApplication":
 "ORACLE-ISS-APP",

    "Entity": "leads",

    "Href": null,

    "Method": null,

    "ContentType": null,

    "PageType": "NG-
LIST",

    "ApplicationRoles":
null,

"ObjectFunctionName":
null,

    "ActionIntent":
"{\"Type\":\"URL\",\"Sub
Type\":null,\"Target\":\
"https://<host>/fscmUI/
redwood/advanced-
customer-care/main/main-
start/lo-billing-
accounts?refId=$
{param1}&refType=LEAD\",
\"SubTarget\":\"SELF\",\
"Fulfillment\":\"UI\",\"
```

Entity	Smart Action and Description	Code Sample

		`UIAttributeDefaults\":` `[{\"TargetKey\":\"param1` `\",\"SourceKey\":\"LeadI` `d\",\"Value\":null}]}",`
		
		`"UserActionNavigation":` `[],`
		
		`    "UserPrivilege":` `"[{\"Resource\":\"privil` `ege:UER_UTILITY_SMART_AC` `TIONS_PRIV\",\"ResourceT` `ype\":\"oracle.adf.share` `.security.authorization.` `MethodPermission\",\"Act` `ion\":\"invoke\"}]"`
		
		`}`

Entity	Smart Action and Description	Code Sample
| Opportunities | **Edit billing accounts**<br><br>Opens the Edit Billing Accounts page for the selected opportunity. | ```
{

    "ConfirmationMessage":
null,

    "UserActionName":
"CUST-
Editbillingaccounts-
opportunities",

    "DisplayLabel":
"Edit billing accounts",

    "IncludedIn":
"OpportunityVO",


"IncludedInApplication":
 "ORACLE-ISS-APP",

    "Entity":
"opportunities",

    "Href": null,

    "Method": null,

    "ContentType": null,

    "PageType": "NG-
LIST",

    "ApplicationRoles":
null,


"ObjectFunctionName":
null,

    "ActionIntent":
"{\"Type\":\"URL\",\"Sub
Type\":null,\"Target\":\
"https://<host>/fscmUI/
redwood/advanced-
customer-care/main/main-
start/lo-billing-
accounts?refId=$
{param1}&refType=OPPORTU
NITY\",\"SubTarget\":\"S
``` |

Entity	Smart Action and Description	Code Sample
| | | ```
ELF\",\"Fulfillment\":\"
UI\",\"UIAttributeDefaul
ts\":
[{\"TargetKey\":\"param1
\",\"SourceKey\":\"OptyN
umber\",\"Value\":null}]
}",


"UserActionNavigation":
[],

    "UserPrivilege":
"[{\"Resource\":\"privil
ege:UER_UTILITY_SMART_AC
TIONS_PRIV\",\"ResourceT
ype\":\"oracle.adf.share
.security.authorization.
MethodPermission\",\"Act
ion\":\"invoke\"}]"

}
``` |

Entity	Smart Action and Description	Code Sample
| Service Requests | **Edit billing accounts**<br><br>Opens the Edit Billing Accounts page for the selected service request. | ```
{

"ConfirmationMessage":
null,

    "UserActionName":
"CUST-
Editbillingaccounts-
serviceRequests",

    "DisplayLabel":
"Edit billing accounts",

    "IncludedIn":
"ServiceRequestVO",


"IncludedInApplication":
 "ORACLE-Service-APP",

    "Entity":
"serviceRequests",

    "Href": null,

    "Method": null,

    "ContentType": null,

    "PageType": null,

    "ApplicationRoles":
null,


"ObjectFunctionName":
null,

    "UserPrivilege":
"[{\"Resource\":\"privil
ege:UER_UTILITY_SMART_AC
TIONS_PRIV\",\"ResourceT
ype\":\"oracle.adf.share
.security.authorization.
MethodPermission\",\"Act
ion\":\"invoke\"}]",


"UserActionNavigation":
``` |

Entity	Smart Action and Description	Code Sample
| | | ```
[

    {

"UserActionNavAppUsage":
 "ORACLE-Service-APP",

"UserActionNavType":
"Type1",

"UserActionNavBody":
"{\"Navigation\":
{\"Type\":\"url\",\"Page
\":\"https://<host>/
fscmUI/redwood/advanced-
customer-care/main/main-
start/sr-billing-
accounts\",\"WindowName\
":\"_self\",\"Params\":
{\"srNumber\":\"$SrNumbe
r\"}},\"IsCustom\":true}
",

    }

  ]

}
``` |

Entity	Smart Action and Description	Code Sample

Service Requests	**View Work Queue**
	 Opens the Work Queue in CX for Utilities Sales.
		<pre>{
		
		"ConfirmationMessage":
		null,
		
		    "UserActionName":
		"CUST-ViewWorkQueue-
		serviceRequests",
		
		    "DisplayLabel":
		"View Work Queue",
		
		    "IncludedIn":
		"ServiceRequestVO",
		
		"IncludedInApplication":
		 "ORACLE-Service-APP",
		
		    "Entity":
		"serviceRequests",
		
		    "Href": null,
		
		    "Method": null,
		
		    "ContentType": null,
		
		    "PageType": null,
		
		    "ApplicationRoles":
		null,
		
		"ObjectFunctionName":
		null,
		
		    "UserPrivilege":
		"[{\"Resource\":\"privil
		ege:UER_UTILITY_SMART_AC
		TIONS_PRIV\",\"ResourceT
		ype\":\"oracle.adf.share
		.security.authorization.
		MethodPermission\",\"Act
		ion\":\"invoke\"}]",
		
		"UserActionNavigation":
		[</pre>

Entity	Smart Action and Description	Code Sample
		<pre>{

  "UserActionNavAppUsage":
   "ORACLE-Service-APP",

  "UserActionNavType":
  "Type1",

  "UserActionNavBody":
  "{\"Navigation\":
  {\"Type\":\"url\",\"Page
  \":\"https://<host>/
  fscmUI/redwood/advanced-
  customer-care/main/main-
  start/work-
  queue\",\"WindowName\":\
  "_self\",\"Params\":
  {}},\"IsCustom\":true}"

      }

    ]

}</pre> |

12
Manage Roles and Users

Using duty roles and job roles, you can view and manage contact, customer, account, and service request data in the CX for Utilities solutions. When deploying the solutions, you have access to predefined security privileges and roles.

Utilities Customer Service Administrator, Utilities Customer Service Manager, and Utilities Customer Service Representative are predefined job roles of CX for Utilities Agent Service. Utilities Key Account Administrator, Utilities Key Account Manager for Sales, Utilities Key Account Manager for Service, Utilities Key Account Supervisor for Sales, and Utilities Key Account Supervisor for Service are predefined job roles of CX for Utilities Sales. A mapping of the job hierarchy and what permissions each utility role has access to is outlined in the following sections.

This section also discusses how those predefined roles and privileges are defined and made available to the utility's agents and key account managers. For details on Oracle Fusion security and how to create new roles with specific privileges for users, see Securing Sales and Fusion Service in the Fusion Service library in the Oracle Help Center.

Role-Based Security

In addition to the roles that are delivered with the solution, you can also create custom roles and users. Before creating custom roles, you should have a complete understanding of Oracle's role-based security.

For more information, see Understand Role-Based Access Control in the Fusion Service library in the Oracle Help Center.

In this chapter:

- Predefined Privileges and Roles - CX for Utilities Agent Service
- Predefined Privileges and Roles - CX for Utilities Sales
- Extending Predefined Roles
- Create and Manage Utilities Users

Predefined Privileges and Roles - CX for Utilities Agent Service

These are the predefined functional privileges associated with CX for Utilities Agent Service:

- View utilities agent desktop.
- View utilities call center module.
- Access customer list on home page.
- Access knowledge management on home page.
- View my day work queue.
- View utilities create contact flows.
- View knowledge management administrative console.
- View embedded customer information system application.

- Access Customer 360
- Access Utilities Tile under Service Folder
- Create Sales Organization
- Update Sales Organization

This table outlines the predefined job roles for CX for Utilities Agent Service:

Job Role and Description	Privileges	Child Job Roles
Utilities Customer Service Representative	• View Utilities Call Center Module • Access Customer List on Home Page • Access Knowledge Management on Home Page • View My Day Work Queue • View Utilities Create Contact Flows • View Utilities Agent Desktop • Update Sales Organization • Create Sales Organization • Access Utilities Tile under Service Folder • Access Premium Service Actions in CIS • Access Customer 360	• Customer Service Representative • Knowledge Search Service • Knowledge Home for Service • Knowledge Home • Access Groups Enablement
Utilities Customer Service Manager	• View Utilities Agent Desktop • View Utilities Call Center Module • Access Customer List on Home Page • Access Knowledge Management on Home Page • View My Day Work Queue • View Utilities Create Contact Flow • View Knowledge Management Administrative Console • Update Sales Organization • Create Sales Organization • Access Utilities Tile Under Service Folder • Access Premium Service Actions in CIS • Access Customer 360	• Customer Service Manager • Knowledge Authoring • Knowledge author service • Knowledge Home • Knowledge Home for Service • Knowledge Search Service • Engagement Channel Supervisor • Access Groups Enablement

Job Role and Description	Privileges	Child Job Roles
Utilities Customer Service Administrator	• View Knowledge Management Administrative Console • Access Customer List on Home Page • Access Knowledge Management on Home Page • View My Day Work Queue • View Utilities Agent Desktop • View Utilities Call Center Module • Update Sales Organization • Create Sales Organization • Access Utilities Tile Under Service Folder • Access Premium Service Actions in CIS • Access Customer 360	• Knowledge Analytics • Knowledge Rest Administrator • Knowledge Setup and Maintenance • Customer Service Administrator • Engagement Channel Application Administrator • Knowledge User Management • Customer Relationship Management Application Administrator • Sales Administrator • Access Groups Enablement
Utilities Customer Service User Synchronization Used for Oracle Identity Management user sync between Oracle Fusion Service and Oracle Utilities Customer Cloud Service.	• View Embedded Customer Information System Application	

Predefined Privileges and Roles - CX for Utilities Sales

These are the predefined functional privileges associated with CX for Utilities Sales:

- Access Business Customer Hierarchy

- Access Business List on Home Page

- Access Knowledge Management on Home page

- Access Customer 360

- Access C360 Leads and Opportunities Tab

- Access Premium Service Actions in CIS

- Access Utilities Tile under Sales Folder

- Access Utilities Tile under Service Folder

- Access Utility Smart Actions

- View Knowledge Management Administrative Console

- View My Day Work Queue

- View Utilities Call Center module

- View Utilities Create Contact Flows

Not all privileges are fully functional.

This table outlines the predefined job roles for CX for Utilities Sales:

Job Role and Description	Privileges	Child Job Roles
Utilities Key Account Manager for Sales	• View utilities create contact flows • View My Day Work Queue • Access Utilities Tile under Sales Folder • Access Knowledge Management on Home Page • Access Customer 360 • Access C360 Leads and Opportunities tab • Access Business List on Home Page • Access Business Customer Hierarchy • Access Utility Smart Actions	• Sales Representative • Knowledge Home for Service • Knowledge Search Service • Knowledge Home • Access Groups Enablement
Utilities Key Account Manager for Service	• View Utilities Create Contact Flows • View Utilities Call Center module • View My Day Work Queue • Access Utilities Tile under Service Folder • Access Premium Service Actions in CIS • Access Knowledge Management on Home Page • Access Customer 360 • Access Business List on Home Page • Access Business Customer Hierarchy • Access Utility Smart Actions	• Customer Service Representative • Knowledge Home for Service • Knowledge Search Service • Knowledge Home
Utilities Key Account Supervisor for Sales	• View Utilities Create Contact Flows • View My Day Work Queue • Access Utilities Tile under Sales Folder • Access Knowledge Management on Home Page • Access Customer 360 • Access C360 Leads and Opportunities tab • Access Business List on Home Page • Access Business Customer Hierarchy • Access Utility Smart Actions	• Knowledge Home for Service • Knowledge Authoring • Knowledge Search Service • Knowledge Author Service • Knowledge Home • Engagement Channel Supervisor • Access Groups Enablement

Job Role and Description	Privileges	Child Job Roles
Utilities Key Account Supervisor for Service	• View Utilities Create Contact Flows • View Utilities Call Center module • View My Day Work Queue • Access Utilities Tile under Service Folder • Access Premium Service Actions in CIS • Access Knowledge Management on Home Page • Access Customer 360 • Access Business List on Home Page • Access Business Customer Hierarchy • Access Utility Smart Actions	• Customer Service Manager • Knowledge Home for Service • Knowledge Authoring • Knowledge Search Service • Knowledge Author Service • Knowledge Home • Engagement Channel Supervisor • Access Groups Enablement
Utilities Key Account Administrator	• View Utilities Create Contact Flows • View Utilities Call Center module • View My Day Work Queue • View Knowledge Management Administrative Console • Access Utilities Tile under Service Folder • Access Utilities Tile under Sales Folder • Access Premium Service Actions in CIS • Access Knowledge Management on Home Page • Access Customer 360 • Access C360 Leads and Opportunities tab • Access Business List on Home Page • Access Business Customer Hierarchy • Access Utility Smart Actions	• Customer Relationship Management Application Administrator • Customer Service Administrator • Knowledge Analytics • Knowledge Setup and Maintenance • Knowledge User Management • Knowledge Search Service • Knowledge Rest Administrator • Sales Administrator • Engagement Channel Application Administrator • Access Groups Enablement

Extending Predefined Roles

This section describes suggested extended roles for your CX for Utilities solutions that enable account creation and maintenance. If you create additional custom roles during your implementation process, you must review user synchronization configuration, as adjustments might be required so that users assigned to custom roles are propagated to your Oracle Utilities customer information system and to CX Industry Framework, as required.

For specific instructions and information about creating and managing roles in Oracle Fusion, see the following topics in the *Securing Applications Guide*, available in the Oracle Help Center:

- Data Security Policies

- Role Provisioning, Role Assignments, and Role Configuration

To set up security for your service agents, you must update the access for each of the following roles, as needed, using the steps below:

- ORA_UER_UTILITIES_CUSTOMER_SERVICE_MANAGER_JOB

- ORA_UER_UTILITIES_CUSTOMER_SERVICE_ADMINISTRATOR_JOB

- ORA_UER_UTILITIES_CUSTOMER_SERVICE_REPRESENTATIVE

This step is not required for CX for Utilities Sales users.

You must have access to the IT Security Manager job role to perform the following steps.

To update access:

1. Sign in to the Oracle Fusion Applications as an administrator.

2. Navigate to **Sales and Service Access Management**.

3. In the Configure Groups tab, search for the role you want to use. For example, search for Utilities Customer Service Representative.

4. In the Search Results region, drill down to the group.

5. Select **Object Rules**.

6. Select the object you want and click **Search**. For example, select Account.

7. You can view existing access rules for any of your Role based groups for the object.

8. To add a new access rule, click the **Add Rule** button.

9. Using the table below as a guide, select the designated rules for each object mentioned.

10. Click **Apply** after each selection.

11. Click **Done**.

12. On the Edit Access Group screen, click **Save And Close**.

13. Click **Object Rules**, then click **Actions** and select **Publish Rules**.

14. Refresh your screen to confirm the rules are published. This might take several minutes.

15. Complete these steps for each role.

Object	Rule	Access Level	Purpose
Account	All Accounts	Full	To be able to do CRUD operations to Accounts.
Contact	All Contacts	Full	To be able to do CRUD operations to Contacts.

Object	Rule	Access Level	Purpose
Contact	Person Home Phone and Personal Email	Full	To be able to do CRUD operations to Personal Email (with purpose PERSONAL). To be able to do CRUD operations to Home Phone (with purpose PERSONAL or phone type HOME).
Contact	Person Social Security Number	Full	To be able to do CRUD operations to SSN/Tax Number.
Contact	Person Address	Full	To be able to do CRUD operations to Home Address (with site use HOME).
Contact	Person Additional Identifier Person Citizenship Number Person Mobile Phone Number	Full	

Create and Manage Utilities Users

After you have completed the user synchronization process, you might need to create additional users or manage existing user information. This topic explains how you can create new **utility system users** after the user synchronization process is complete. This includes utility customer service agents and their managers, key account managers and their supervisors, and administrators, as well as users who will need access to Oracle Utilities customer information system, but not need access to any Oracle Fusion system, including Customer Experience for Utilities solutions.

When you create a new utility user, you log in to the Oracle Fusion application URL. You can create administrative users and application end users. Use the following references for additional information on creating users:

- For instructions on creating administrative (setup) users, see "Setup Users" in the *Implementing Sales Guide*, available in the Oracle Sales library.

- For instructions on creating end users, see "Users and Security" in the *Implementing Sales Guide*, available in the Oracle Sales library.

After you create the user, you will assign them to the appropriate job role.

CX for Utilities Agent Service uses the following predefined roles:

- ORA_UER_UTILITIES_CUSTOMER_SERVICE_MANAGER

- ORA_UER_UTILITIES_CUSTOMER_SERVICE_REPRESENTATIVE

- ORA_UER_UTILITIES_CUSTOMER_SERVICE_ADMINISTRATOR

- ORA_UER_UTILITIES_CUSTOMER_SERVICE_USER_SYNCHRONIZATION (Use this role for Customer Cloud Service users who do not need access to Fusion applications or CX for Utilities Agent Service.)

- Any custom roles that have been created for use with CX for Utilities Agent Service.

CX for Utilities Sales uses the following predefined roles:

- ORA_UER_UTILITIES_KEY_ACCOUNT_ADMINISTRATOR
- ORA_UER_UTILITIES_KEY_ACCOUNT_MANAGER_FOR_SALES
- ORA_UER_UTILITIES_KEY_ACCOUNT_MANAGER_FOR_SERVICE
- ORA_UER_UTILITIES_KEY_ACCOUNT_SUPERVISOR_FOR_SALES
- ORA_UER_UTILITIES_KEY_ACCOUNT_SUPERVISOR_FOR_SERVICE
- Any custom role you have created for use with CX for Utilities Sales

Once your users are created, you must also be aware of how to manage them. For specific instructions and additional information about creating and managing users in Oracle Fusion, see the guides that are available in the Security section of the Oracle Fusion Service Help Center.

This table lists the information you need to be aware of when managing users:

Task	Utility-Specific Details
Create users that will use or administer CX for Utilities Agent Service.	1. Create the user in Oracle Fusion applications using one or more of these roles: • ORA_UER_UTILITIES_CUSTOMER_SERVICE_MANAGER • ORA_UER_UTILITIES_CUSTOMER_SERVICE_REPRESENTATIVE • ORA_UER_UTILITIES_CUSTOMER_SERVICE_ADMINISTRATOR • Any custom roles that have been created for use with CX for Utilities Agent Service. 2. Wait for the user to be synchronized from Fusion applications to the CX Industry Framework and Customer Cloud Service identity domains. This occurs using the frequency you defined during the user synchronization setup process.

Task	Utility-Specific Details
Create users that will use or administer CX for Utilities Sales.	1. Create the user in Oracle Fusion applications using one or more of these roles: • ORA_UER_UTILITIES_KEY_ACCOUNT_ADMINISTRATOR • ORA_UER_UTILITIES_KEY_ACCOUNT_MANAGER_FOR_SALES • ORA_UER_UTILITIES_KEY_ACCOUNT_MANAGER_FOR_SERVICE • ORA_UER_UTILITIES_KEY_ACCOUNT_SUPERVISOR_FOR_SALES • ORA_UER_UTILITIES_KEY_ACCOUNT_SUPERVISOR_FOR_SERVICE • Any custom roles that have been created for use with CX for Utilities Sales. 2. Wait for the user to be synchronized from Fusion applications to the CX Industry Framework and Oracle Utilities identity domains. This occurs using the frequency you defined during the user synchronization setup process.
Create users that need access to your Oracle Utilities system but do not need access to any Oracle Fusion applications, including CX for Utilities systems.	1. Create the user in Oracle Fusion applications using this role: • ORA_UER_UTILITIES_CUSTOMER_SERVICE_USER_SYNCHRONIZATION 2. Wait for the user to be synchronized from Fusion applications to the CX Industry Framework and Oracle Utilities identity domains. This occurs using the frequency you defined during the user synchronization setup process.
Create users who need access to Fusion applications but do not need access to CX for Utilities Agent Service, CX for Utilities Sales, or your Oracle Utilities system.	1. Create the user in Oracle Fusion applications using a Fusion applications role. 2. Wait for the user to be synchronized from Fusion applications to the CX Industry Framework and Oracle Utilities identity domains. This occurs using the frequency you defined during the user synchronization setup process.
Updating user information for all users.	All updates to user information, whether completed by a system administrator or by self-service processes, should be done in Fusion applications.

Task	Utility-Specific Details
Deleting a user.	1. A system administrator deletes the user from the Fusion applications identity domain. 2. Wait for the user to be removed from the related systems, including the CX Industry Framework and Oracle Utilities identity domains. This occurs using the frequency you defined during the user synchronization setup process. 3. To remove the user immediately, perform the removal manually in all related systems.
Remove or change roles for users.	1. Modify the user in Fusion applications to update all necessary roles. 2. In cases where the role change affects a user's ability to access Customer Cloud Service, update the role assignment in the CX Industry Framework and Oracle Utilities identity domains.
Deactivate a user.	Deactivate the user in Fusion applications to block the access immediately.
Password and sign on activities such as: • Reset user passwords. • Manage password policies. • Manage account recovery settings. • Manage sign-on policies.	These tasks are completed by the system administrator in Fusion applications, and changes take effect immediately.
Manage Multi-Factor Authentication (MFA)	Complete the tasks listed in the Manage Oracle Identity Cloud Service Multi-Factor Authentication Settings in the *Administering Oracle Identity Cloud Service Guide*.

13

Test Your Setup

After you have completed all of the steps to implement Customer Experience for Utilities, you should log in to the CX for Utilities solution using each of the user roles you have defined. For each role, verify that you can complete basic end user tasks, and that your interface displays the expected options. To complete these tasks, customer and contact data must exist in your system.

Complete these tasks to test your CX for Utilities Agent Service setup:

- Log in to your home page.
- Access to do tasks and service requests from the Work Queue.
- Access the Fusion Contact page from the Customer List.
- Access Customer 360.
- Answer calls and set your call availability.
- View Knowledge Management articles.

Complete these tasks to test your CX for Utilities Sales setup:

- Log in to your home page.
- Access the Business List and search for a customer or prospect.
- Access the Fusion Account page from the Business List.
- Access Account 360.
- View Knowledge Management articles.

For instructions and additional information about these tasks, see the user documentation available in the Oracle Utilities Customer Experience library.

14

Extending Your Solution Using Visual Builder Studio

This chapter provides a brief overview of Oracle Visual Builder Studio (VB Studio) extensibility options, and discusses how they can be used to meet your business requirements within the Customer Experience for Utilities solutions.

VB Studio is an application development platform that helps you to develop an application extension and manage the entire development life cycle, from creation to publication.

Here are the extension points that are available via VB Studio:

- **Dynamic Forms and Tables:** Enables extensions to add, remove, reorder, or change the rendering of fields.

- **Dynamic Containers:** Enables extensions to insert content and to add, remove, or reorder base application content.

- **Constants, Variables, and Types:** Extensions can override base application constants or read and write to variables made available by the base application. User-defined types can also be made available for use by extensions.

- **Events:** Enables extensions to trigger base application behaviors or to respond to events initiated by the base application.

- **App UIs (New Flows):** Extensions can define new app UIs in which they can create new UI flows that are either linked from or embedded within existing pages.

For additional information about configuring and extending Oracle applications, see:

- *Configuring and Extending Applications* in the Applications Common library on Oracle Help Center

- The Extending Oracle Cloud Applications with Visual Builder Studio Guide

In this chapter:

- Use Cases for Customer Experience for Utilities

Use Cases for Customer Experience for Utilities

Oracle has tested several use cases to extend specific objects in the Customer Experience for Utilities experience. As use cases are created and validated, they will be included here for your reference.

This documentation does not cover all steps you need to take within the VB Studio application. Before attempting to implement these use cases, you must have a working knowledge of the VB Studio, and a thorough understanding of the extension process. These use cases are intended as a reference only. You can use your knowledge of VB Studio, along with these examples to determine how you to implement similar use cases.

In this section:

- Adding an Action to the Person and Premise Search

- Adding User Actions to Existing Insights
- Adding New Insights With User Actions
- Adding Columns to the Work Queue
- Adding an Action to the Customer Dashboard
- Adding an Action to Premise Customer History
- Adding Actions to Account 360 Billing Account View
- Hiding Actions from Account 360 Billing Account View
- Rename Redwood Sales Dashboard
- Configure Knowledge Management Book Icon in Customer Dashboard
- Add Custom Program Enrollments to Billing Highlights

Adding an Action to the Person and Premise Search

You can use VB Studio to add custom actions to the Action button on the Person and Premise Search screen, available in CX for Utilities Agent Service.

Figure 14-1   Person and Premise Search

You can add these types of actions:

- Open URL action
- Navigate to page action

This example shows how to add either an open URL action or a navigate to page action to the button.

This example assumes that the reader understands how to use VB Studio. For additional information, see:

- Using the Person and Premise Search in the *Using CX for Utilities Agent Service Guide*
- The Visual Builder Studio library in the Oracle Help Center
- Customizing Variables and Constants in the *Extending Oracle Cloud Applications with Visual Builder Studio Guide*

Example: Adding an Action Menu Item to the Person and Premise Search

1. Log into CX for Utilities Agent Service as an administrator, and select the **Person and Premise Search** page tab.

2. Click the menu at the top right of the page and select **Edit Page in Visual Builder Studio**.

3. Select your workspace and click **Select**. Note that you can also create a new workspace if needed.

4. In the **App UIs** panel, expand Customer Experience (CX), then expand Customer Experience For Utilities and then expand Fragments.

5. Select the e11y-user-action-template fragment.

6. Select the **Variables** sub-tab to display the constants and variables.

7. Click on the **USER_ACTION_CONTEXT_LIST** constant.

8. On the right side of the screen, enter the following sample code in the **Default Value** field, which will add an open url action:

```
[

{

"id": "CUSTOM_ACTION_NAME",

"label": "Custom Menu Label",

"active": true,

"context": {

"type": "Url",

"url": "https://commenuname.html?component=${component}&demo=$
{demo}&testId=${testId}",

"params": [

{

"name": "component",

"value": "menu"

},

{

"name": "demo",

"value": "overview"

},

{

"name": "testId",

"scope": "ui"

}
```

```
]

}

}

]
```

You can also add a navigate to page action by replacing the above code sample with this code sample:

```
[

{

"id": "CUSTOM_ACTION_NAME",

...

},

{

"id": "NAVIGATE_ACTION_NAME",

"label": "Navigate to digital-sales page",

"active": true,

"context": {

"type": "InAppNavigation",

"appName":  "digital-sales",

"appPage": "es/p/mycustomers/contacts",

"windowName": "_blank",

"params": [

{

"name": "puid",

"alias": "partyNumber"
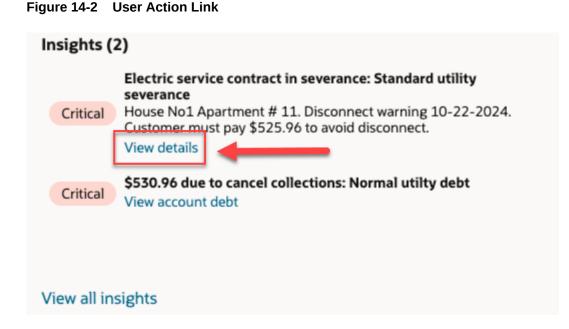
}

}

}

]
```

9. If there are extensions params that you want to use in action meta-data's context params, complete these steps:

   a. Return to the main-contacts-start tab and select the **Variables** sub-tab.

   b. Click on the **USER_ACTION_PARAMS_HEADER_ACTIONS** constant.

   c. In the **Default Value** field, enter the value mapping for extension params:

```
[[

[

{

"name": "testId",

"value": $page.variables.testId

}

]

]]
```

10. Click on the **JSON** sub-tab to display a view where you can easily edit this sample code, and update the code sample so it reflects your custom values.

11. Return to the **main-contacts-start** tab and select the **Variables** sub-tab.

12. Click on the **USER_ACTION_UI_HEADER_ACTIONS** constant.

13. In the **Default Value** field, enter the ID you used in your code sample above. For example, enter ["CUSTOM_ACTION_NAME"] in this field.

14. Preview your changes to verify that they look as you expected. This will launch a new tab with the **Person and Premise Search**. Validate that your new option is available, and that it navigates to the appropriate URL.

15. When your changes are ready for use, complete the steps to publish your changes to your production environment.

Adding User Actions to Existing Insights

You can use VB Studio to change the action on existing insights that appear in CX for Utilities. For example, in CX for Utilities Agent Service, if you click on the **View details** link on a severance insight, the system brings you to your customer information system. You can use these steps to change the navigation of that link to go to a different location. For example, you can have the link navigate you to the **Billing** tab instead.

Figure 14-2   User Action Link

You can add these types of actions:

- Open URL action
- Navigate to page action

Before you complete this task, you must first complete these tasks using the information available in the Customer Experience for Utilities Configuration Tasks topic:

1. Create the user action you want to use in your insight.

2. Create a new user action insight type to associate your user action with the specific type of insight for which you want the action to be available.

3. Delete the existing insight type user action that is associated with the insight type to which you want to add your custom action.

This example assumes that the reader understands how to use Visual Builder. For additional information, see:

- The Visual Builder Studio library in the Oracle Help Center
- Customizing Variables and Constants in the *Extending Oracle Cloud Applications with Visual Builder Studio Guide*

For additional information about insights, see:

- Using the Overview Tab in the *Using CX for Utilities Agent Service Guide*
- Managing Insights in the *Using CX for Utilities Sales Guide*

Example: Adding a Custom User Action to Insights

1. Log into CX for Utilities Agent Service or CX for Utilities Sales as an administrator.

2. Click the menu at the top right of the page and select **Edit Page in Visual Builder Studio**.

3. Select your workspace and click **Select**. Note that you can also create a new workspace if needed.

4. In the **App UIs** panel, expand Customer Experience (CX) and then expand Customer Experience For Utilities and expand Fragments.

5. Select the **e11y-user-action-template** fragment.

6. Select the **Variables** sub-tab to display the constants and variables.

7. Click on the **USER_ACTION_CONTEXT_LIST** constant.

8. On the right side of the screen, enter the following sample code in the **Default Value** field.

   Be sure that any `params` that you include in your code sample are also included in your URL.

```
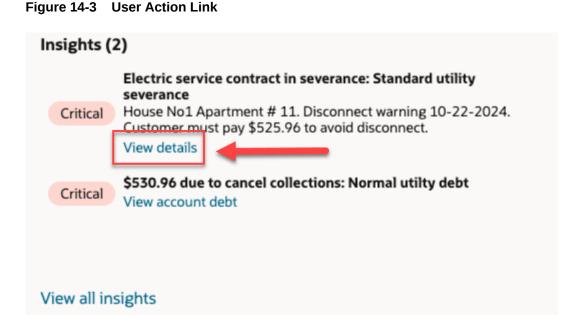[

{

"id": "CUSTOM_ACTION_NAME",

"label": "Custom Menu Label",

"active": true,

"context": {

"type": "Url",

"url":

"https://custommenuname.html?component=${component}&demo=${demo}&tes

tId=${testId}&billingAccountId=${billingAccountId}&contactPartyNumbe

r=${contactPartyNumber}": [

{

"name": "component",

"value": "menu"

},

{

"name": "demo",

"value": "overview"

},

{

"name": "extTestId",

"scope": "ext"

}

{
```

```
"name": "billingAccountId"

}

{

"name": "contactPartyNumber"

}

]

}

}

]
```

9. If there are extensions params that you want to use in action meta-data's context params, complete these steps:

   a. Return to the main-keyaccounts-dashboard-start tab and select the **Variables** sub-tab.

   b. Click on the **USER_ACTION_PARAMS_INSIGHTS** constant.

   c. In the **Default Value** field, enter the value mapping for extension params:

   ```
   [[

   [

   {

   "name": "extTestId",

   "value": $page.variables.extTestId

   }

   ]

   ]]
   ```

10. Click on the **JSON** sub-tab to display a view where you can easily edit this sample code, and update the code sample so it reflects your custom values.

Adding New Insights With User Actions

You can use VB Studio to make a new custom insight appear in your Customer Experience for Utilities solution, and you can add your own user action to that insight.

For example, you might want to create an insight that appears when a customer's usage exceeds a certain value. You can also create a custom user action for that insight so that if you click on the **View details** link on your new insight, the system brings you to the Usage tab.

This image shows an example of an insight, and the **View details** link, which is used to launch the user action.

Figure 14-3   User Action Link

You can add these types of actions:

• Open URL action

• Navigate to page action

Before you complete this task, you must first complete these tasks using the information available in the Customer Experience for Utilities Configuration Tasks topic:

1. Create a new insight type.

2. Create a new insight group insight type, and associate your new insight with this new insight group.

3. Create the user action you want to use in your insight.

4. Create a new user action insight type to associate your user action with the specific type of insight for which you want the action to be available.

5. Delete the existing insight type user action that is associated with the insight type to which you want to add your custom action.

This example assumes that the reader understands how to use Visual Builder. For additional information, see:

• The Visual Builder Studio library in the Oracle Help Center

• Customizing Variables and Constants in the *Extending Oracle Cloud Applications with Visual Builder Studio Guide*

For additional information about insights, see:

• Using the Overview Tab in the *Using CX for Utilities Agent Service Guide*

• Managing Insights in the *Using CX for Utilities Agent Service Guide*

Example: Adding a New Insight with a Custom User Action

1. Log into CX for Utilities Agent Service or CX for Utilities Sales as an administrator.

2. Click the menu at the top right of the page and select **Edit Page in Visual Builder Studio**.

3. Select your workspace and click **Select**. Note that you can also create a new workspace if needed.

4. In the **App UIs** panel, expand Oracle Utilities Advanced Care UI application and then select **advanced-customer-care**.

5. Select the **Variables** sub-tab to display the constants and variables.

6. Click on the **USER_ACTION_CONTEXT_LIST** constant.

7. On the right side of the screen, enter the following sample code in the **Default Value** field.

   Be sure that any `params` that you include in your code sample are also included in your URL. Also be sure that the value of "id" matches the id of the user action you created.

```
[

{

"id": "CUSTOM_ACTION_NAME",

"label": "Custom Menu Label",

"active": true,

"context": {

"type": "Url",

"url":

"https://custommenuname.html?component=${component}&demo=${demo}&tes

tId=${testId}&billingAccountId=${billingAccountId}&contactPartyNumbe

r=${contactPartyNumber}": [

{

"name": "component",

"value": "menu"

},

{

"name": "demo",

"value": "overview"

},

{

"name": "extTestId",

"scope": "ext"
```

```
        }

        {

        "name": "billingAccountId"

        }

        {

        "name": "contactPartyNumber"

        }

        ]

        }

        }

        ]
```

8. If there are extensions params that you want to use in action meta-data's context params, complete these steps:

   a. Return to the main-keyaccounts-dashboard-start tab and select the **Variables** sub-tab.

   b. Click on the **USER_ACTION_PARAMS_INSIGHTS** constant.

   c. In the **Default Value** field, enter the value mapping for extension params:

   ```
   [[

   [

   {

   "name": "extTestId",

   "value": $page.variables.extTestId

   }

   ]

   ]]
   ```

9. Click on the **JSON** sub-tab to display a view where you can easily edit this sample code, and update the code sample so it reflects your custom values.

Adding Columns to the Work Queue

You can use VB Studio to extend the data that is displayed in the Work Queue table. You can add new or existing fields that are available in your Oracle Utilities customer information system APIs and are mapped in the Utility Data Model template.

For example, you might want to add new columns to the Work Queue that provide your agents with additional data about service requests and to do tasks.

This image shows an example of new columns that are added as extension.

Figure 14-4   Work Queue

Before you complete this task, you must first use the information available in the Work Queue Extended Fields Configuration topic to complete these tasks:

1. Update the utility configuration for the WQ_Default template.

2. Configure the new fields from the Oracle Utilities customer information system APIs in the extension fields that are provided.

This example assumes that the reader understands how to use Visual Builder. For additional information, see:

*   The Visual Builder Studio library in the Oracle Help Center

*   Customizing Variables and Constants in the Extending Oracle Cloud Applications with Visual Builder Studio Guide

Example: Adding New Columns to the Work Queue Table

1. Log into CX for Utilities Agent Service of CX for Utilities Sales as an administrator.

2. Click the menu at the top right of the page and select **Edit Page in Visual Builder Studio**.

3. Select your workspace and click **Select**. Note that you can also create a new workspace if needed.

4. Select **Layouts** and in the **App UIs** panel, expand Oracle Utilities Advanced Care UI application and then select the **Activity** layout.

5. Select the **Activity** rule set and create a copy of that rule set.

6. Select the rule set you just created and then select the fields that you have configured as extension fields in the WQ_Default template. This configuration should have been completed as a prerequisite to this task.

7. Click the Preview button to view the extended fields as new columns in the Work Queue table.

Now that you have added new fields to the Work Queue, you can also update the names (column headers) of those columns on the screen using these steps.

1. Log into CX for Utilities Agent Service as an administrator.

2. Click the menu at the top right of the page and select **Edit Page in Visual Builder Studio**.

3. Select your workspace and click **Select**. Note that you can also create a new workspace if needed.

4. Select **Layouts** and in the **App UIs** panel, expand Oracle Utilities Advanced Care UI application and then select the **Activity** layout.

5. Click on **Fields** and then choose the field you want to update.

6. In the **Label Hint** field, enter the name you want to display as the column header. For example, enter Account Party Number.

7. Click the **advance-customer-care** tab and then click **Preview** to view your changes.

Adding an Action to the Customer Dashboard

You can use VB Studio to add custom actions to the Secondary Actions menu on the Customer Dashboard screen, available in CX for Utilities Agent Service.

Figure 14-5   Add Custom Action

You can add these types of actions:

• Open URL action

• Navigate to page action

This example shows how to add either an open URL action or a navigate to page action to the button.

This example assumes that the reader is familiar with the Customer Dashboard and understands how to use Visual Builder. For additional information, see:

• Using the Customer Dashboard in the *Using CX for Utilities Agent Service Guide*

• The Visual Builder Studio library in the Oracle Help Center

• Customizing Variables and Constants in the *Extending Oracle Cloud Applications with Visual Builder Studio Guide*

Example: Adding a Custom Action to the Customer Dashboard

1. Log into CX for Utilities Agent Service as an administrator.

2. Click the menu at the top right of the page and select **Edit Page in Visual Builder Studio**.

3. Select your workspace and click **Select**. Note that you can also create a new workspace if needed.

4. In the **App UIs** panel, expand Oracle Utilities Advanced Care UI application and then navigate to main, then customer-dashboard, and then select **customer-dashboard-start**.

5. Select the Event and for cutomerDashboardSecondaryActionEvent create an event listener and select an action chain which will implement your custom functionalities.

6. In the **App UIs** panel, expand Oracle Utilities Advanced Care UI application and then select **e11y-user-action-template** fragment in the Fragments submenu.

7. Select the **Variables** sub-tab to display the constants and variables.

8. Click on the **USER_ACTION_CONTEXT_LIST** constant.

9. On the right side of the screen, enter the configuration for your action type in the **Default Value** field.

Figure 14-6   Example Configuration

10. In the **App UIs** panel, expand Oracle Utilities Advanced Care UI application and then again expand main, then select **customer-dashboard-start** from the customer-dashboard sub-menu.

11. Select the **Variables** sub-tab to display the constants and variables.

12. Click on the **USER_ACTION_UI_CUSTOMER_DASHBOARD_MORE_ACTIONS** constant.

13. On the right side of the screen, enter the same ID strings which were passed on the **USER_ACTION_CONTEXT_LIST** of **e11y-user- action-template** fragment.

Example code:

```
[
    {
        "id": "ACTION_CUSTOM_EVENT",
        "label": "Custom Event",
        "active": true,
        "context": {
            "type": "CustomEvent",
            "eventId": "page:cutomerDashboardSecondaryActionEvent",
            "eventData": {
                "eventType": "CUSTOM"
            }
        }
    }
]
```

14. Preview your changes to verify that they look as you expected. This will launch a new tab with the Customer Dashboard. Navigate to Secondary Action Menu and check for your extended user action

15. When your changes are ready for use, complete the steps to publish your changes to your production environment.

Adding an Action to Premise Customer History

You can use VB Studio to add custom actions to customer history records on the Premise screen, which is available in CX for Utilities Agent Service. These custom actions will be available in an action menu on the right side of each customer history record, as shown here:

Figure 14-7   Premise Customer History

You can add these types of actions:

• Open URL action

• Navigate to page action

This example shows how to add either an open URL action or a navigate to page action to the button.

This example assumes that the reader is familiar with premise data and understands how to use Visual Builder. For additional information, see:

• Premise Management in the Using CX for Utilities Agent Service Guide

• The Visual Builder Studio library in the Oracle Help Center

• Customizing Variables and Constants in the *Extending Oracle Cloud Applications with Visual Builder Studio Guide*

Example: Adding an Action Menu Item to Customer History Records on the Premise Screen

1. Log into CX for Utilities Agent Service as an administrator.

2. Click the menu at the top right of the page and select **Edit Page in Visual Builder Studio**.

3. Select your workspace and click **Select**. Note that you can also create a new workspace if needed.

4. In the **App UIs** panel, expand Customer Experience (CX), then expand Customer Experience For Utilities and then expand Fragments.

5. Select the e11y-user-action-template fragment.

6. Select the **Variables** sub-tab to display the constants and variables.

7. Click on the **USER_ACTION_CONTEXT_LIST** constant.

8. On the right side of the screen, enter the following sample code in the **Default Value** field, making sure that any params that you include in your code sample are also included in your URL. Also be sure that the value of "id" matches the id of the user action you created.

```
[

{

"id": "UNIQUE_ID_TO_IDENTIFY_THIS_ACTION",

"label": "Custom Action",

"active": true,

"context": {

"type": "Url",

"url": "https://test.url.com/trunk/${from}.html?component=$
{customerClass}&demo=${billingAccountId}",

"windowName": "_blank",

"params": [

{

"name": "from",

"value": "jetCookbook"

},

{

"name": "customerClass",

},

{

"name": "billingAccountId"

}

]

}

}

]
```

This sample code uses the customerClass and billingAccountId params in the action meta-data, which are exported for Visual Builder extensions to use. See the page's variable

UserActionParamsUiQuickActionBar for a complete list of params we export, which currently includes:

- customerClass
- billingAccountId
- setupDate
- endDate
- serviceTypes
- mainCustomer
- relatedParties

9. If there are extensions params that you want to use in action meta-data's context params, complete these steps:

    a. Return to the **main-premise-landing-start** tab and select the **Variables** sub-tab.

    b. Click on the **USER_ACTION_PARAMS_CUSTOMER_HISTORY_ACTION** constant.

    c. In the **Default Value** field, enter the value mapping for extension params:

    ```
    [[

    [

    {

    "name": "extTestId",

    "value": $page.variables.extTestId

    }

    ]

    ]]
    ```

10. Click on the **JSON** sub-tab to display a view where you can easily edit this sample code, and update the code sample so it reflects your custom values.

11. Return to the **main-premise-landing-start** tab and select the **Variables** sub-tab.

12. Click on the **USER_ACTION_UI_CUSTOMER_HISTORY_ACTION** constant.

13. In the **Default Value** field, enter the ID you used in your code sample above. For example, enter ["UNIQUE_ID_TO_IDENTIFY_THIS_ACTION"] in this field.

14. Preview your changes to verify that they look as you expected. This will launch a new tab with the **Premise** screen. Validate that your new option is available, and that it navigates to the appropriate URL.

15. When your changes are ready for use, complete the steps to publish your changes to your production environment.

Adding Actions to Account 360 Billing Account View

You can use VB Studio to add custom actions to the Actions menu on the Account 360 screen when viewing a billing account. This screen is available in CX for Utilities Sales.

Figure 14-8   Add Custom Actions

You can add these types of actions:

• Open URL action

• Navigate to page action

This example shows how to add either an open URL action or a navigate to page action to the button.

This example assumes that the reader is familiar with Account 360 and understands how to use Visual Builder. For additional information, see:

• Using Account 360 in the *Using CX for Utilities Sales Guide*

• The Visual Builder Studio library in the Oracle Help Center

• Customizing Variables and Constants in the *Extending Oracle Cloud Applications with Visual Builder Studio Guide*

Example: Adding an Action Menu Item to Account 360 Billing Account View

1. Log into CX for Utilities Sales as an administrator and navigate to Account 360.

2. Search for a billing account.

3. Click the menu at the top right of the page and select **Edit Page in Visual Builder Studio**.

4. Select your workspace and click **Select**. Note that you can also create a new workspace if needed.

5. In the **App UIs** panel, expand Customer Experience (CX), then expand Customer Experience For Utilities and then expand Fragments.

6. Select the e11y-user-action-template fragment.

7. Select the **Variables** sub-tab to display the constants and variables.

8. Click on the **USER_ACTION_CONTEXT_LIST** constant.

9. On the right side of the screen, enter the following sample code in the **Default Value** field, making sure that any params that you include in your code sample are also included in your URL.

```
[
{
"id": "CUSTOM_ACTION_NAME",
"label": "Custom Menu Label",
"active": true,
```

```
"context": {
"type": "Url",
"url": "https://custommenuname.html?component=${component}&demo=$
{demo}&testId=${testId}",
"params": [
{
"name": "component",
"value": "menu"
},
{
"name": "demo",
"value": "overview"
},
{
"name": "testId",
"scope": "ext"
}
]
}
}
]
```

> **Note:**
>
> You can also add a navigate to page action by replacing the above code sample with this code sample:

```
[
{
"id": "CUSTOM_ACTION_NAME",
...
},
{
    "id": "NAVIGATE_ACTION_NAME",
    "label": "Navigate to activities page",
    "active": true,
    "context": {
        "type": "InAppNavigation",
        "appName": "cx-sales",
        "appPage": "application/container/accounts/accounts-detail",
        "windowName": "_blank",
        "params": [
            {
                "name": "puid",
                "alias": "keyAccountPartyNumber"
            },
                {
                    "name": "view",
                    "value": "activities"
                }
        ]
    }
```

```
        }
    ]
```

10. If there are Visual Builder extension params that you want to use in action meta-data's context params, complete these steps to provide your Visual Builder extension params:

    a. Return to the **billingaccount-dashboard** tab and select the **Variables** sub-tab.

    b. Click on the **USER_ACTION_PARAMS_DASHBOARD_MORE_ACTIONS** constant.

    c. In the **Default Value** field, enter the value mapping for extension params:

    ```
    [{

    "name":"testId",

    "value":"[[$page.variables.testId]]"

    }]
    ```

11. Click on the **JSON** sub-tab to display a view where you can easily edit this sample code, and update the code sample so it reflects your custom values.

12. Return to the **Variables** subtab and click on the **USER_ACTION_PARAMS_DASHBOARD_MORE_ACTIONS** constant.

13. In the **Default Value** field, enter the ID you used in your code sample above. For example, enter ["CUSTOM_ACTION_NAME"] in this field.

14. Preview your changes to verify that they look as you expected. This will launch a new tab with the **Account 360** in the billing account view. Validate that your new option is available, and that it navigates to the appropriate URL.

15. When your changes are ready for use, complete the steps to publish your changes to your production environment.

Hiding Actions from Account 360 Billing Account View

You can use VB Studio to hide delivered actions from the Actions menu on the Account 360 screen when viewing a billing account. This screen is available in CX for Utilities Sales.

Figure 14-9   Hide Actions

This example assumes that the reader is familiar with Account 360 and understands how to use Visual Builder. For additional information, see:

- Using Account 360 in the *Using CX for Utilities Sales Guide*

- The Visual Builder Studio library in the Oracle Help Center

- Customizing Variables and Constants in the *Extending Oracle Cloud Applications with Visual Builder Studio Guide*

Example: Hiding the Create Lead Action Menu Item in Account 360 Billing Account View

1. Log into CX for Utilities Sales as an administrator and navigate to Account 360.

2. Search for a billing account.

3. Click the menu at the top right of the page and select **Edit Page in Visual Builder Studio**.

4. Select your workspace and click **Select**. Note that you can also create a new workspace if needed.

5. In the **App UIs** panel, expand Customer Experience (CX), then expand Customer Experience For Utilities and then expand advanced-customer-care.

6. Expand **main** and **key-accounts** and then select billingaccount-dashboard.

7. Select the **Variables** sub-tab to display the constants and variables.

8. Click on the **USER_ACTION_CTRL_DASHBOARD_MORE_ACTIONS** constant.

9. On the right side of the screen, enter the following sample code in the **Default Value** field, which will disable the action:

```
[{"id":"ACTION_CREATE_LEAD","active":false}]
```

10. Preview your changes to verify that they look as you expected. This will launch a new tab with the **Account 360** in the billing account view. Validate that your option is no longer available.

11. When your changes are ready for use, complete the steps to publish your changes to your production environment.

Rename Redwood Sales Dashboard

You can use VB Studio to rename the Sales Dashboard screen and menu options in Redwood Sales to "Utility Sales Dashboard". Use these instructions after you have configured the Redwood Sales interface to display utility data on this screen. After making this change, users who should have access to utility data when viewing this screen will see the updated name. This use case is specific to CX for Utilities Sales.

Figure 14-10   Utility Sales Dashboard Screen

Figure 14-11   Utility Sales Dashboard Menu Option

This example assumes that the reader is familiar with, and understands how to use, Visual Builder. For additional information, see:

- The Visual Builder Studio library in the Oracle Help Center
- Customizing Variables and Constants in the *Extending Oracle Cloud Applications with Visual Builder Studio Guide*

Example: Renaming the Sales Dashboard to Utility Sales Dashboard

1. Log into CX for Utilities Sales as an administrator.
2. From the menu at the top left, select **Configuration** and then **Sandboxes**.
3. From the Sandboxes screen, click **Create Sandbox**.

4. Complete these fields, and then click **Create and Enter**:

   • **Publishable:** Select Yes.

   • **Structure:** Select this option in the AI Tools section.

5. From the Sandox, click the Tools dropdown menu and then select Structure.

6. From the Navigation Configuration page, expand the **Redwood Sales** option and click on **Sales Dashboard**.

7. Change the name to Utility Sales Dashboard and then click **Save and Close**.

8. When your changes are ready for use, complete the steps to publish your changes to your production environment.

Configure Knowledge Management Book Icon in Customer Dashboard

You can use VB Studio to add custom actions to configure the Knowledge Management article that appears when a user clicks on the Book icon in the Customer Dashboard screen, available in CX for Utilities Agent Service.

Figure 14-12   Book Icon

This example shows how to configure a specific Knowledge Management article ID to appear when a user clicks the Book icon in the Customer Dashboard screen.

> **Note:**
>
> This example assumes that the reader understands how to use VB Studio. For additional information, see:
>
> • Managing Customers and Accounts in the *Using CX for Utilities Agent Service Guide*
>
> • The Visual Builder Studio library in the Oracle Help Center
>
> • Customizing Variables and Constants in the *Extending Oracle Cloud Applications with Visual Builder Studio Guide*

Example: Configuring the Knowledge Mangement Article ID for the Book Icon

1. Log into CX for Utilities Agent Service as an administrator.

2. Click the menu at the top right of the page and select **Edit Page in Visual Builder Studio**.

3. Select your workspace and click **Select**. Note that you can also create a new workspace if needed.

4. In the **App UIs** panel, expand Oracle Utilities Advanced Care UI application and then select financial-summary fragment underneath Fragments submenu.

5. Select the **Variables** sub-tab to display the constants and variables.

6. Click on the **KM_ARTICLE_ID** constant.

7. On the right side of the screen, enter the article id that you want to use in the **Default Value** field.

8.

9. Preview your changes to verify that they look as you expected. This will launch a new tab with the Customer Dashboard. Validate that your new Knowledge Management article opens when you click the Book icon.

10. When your changes are ready for use, complete the steps to publish your changes to your production environment.

Add Custom Program Enrollments to Billing Highlights

You can use VB Studio to add custom program enrollment options in the Billing Highlights section of the Customer Dashboard screen, available in CX for Utilities Agent Service.

Figure 14-13   Add Billing Programs to Billing Highlights

This example shows how to configure the extensibility of the Billing Highlights section.

This example assumes that the reader is familiar with the Customer Dashboard and understands how to use Visual Builder. For additional information, see:

• Using the Customer Dashboard in the *Using CX for Utilities Agent Service Guide*

• The Visual Builder Studio library in the Oracle Help Center

• Customizing Variables and Constants in the *Extending Oracle Cloud Applications with Visual Builder Studio Guide*

Example: Adding a Custom Program Enrollment to the Customer Dashboard

1. Log into CX for Utilities Agent Service as an administrator.

2. Click the menu at the top right of the page and select **Edit Page in Visual Builder Studio**.

3. Select your workspace and click **Select**. Note that you can also create a new workspace if needed.

4. In the **App UIs** panel, expand Oracle Utilities Advanced Care UI application and then navigate to main, then customer-dashboard, and then select **customer-dashboard-start**.

5. Select the Event and for **customerDashboardProgramEnrollmentEvent**, create an event listener and select an action chain to implement your custom functionalities.

6. In the **App UIs** panel, expand Oracle Utilities Advanced Care UI application and then select **e11y-user-action-template** fragment in the Fragments sub-menu.

7. Select the **Variables** sub-tab to display the constants and variables.

8. Click on the **USER_ACTION_CONTEXT_LIST** constant.

9. On the right side of the screen, enter the configuration for your action type in the **Default Value** field.

Figure 14-14   Default Value Example

10. Create an account program to list in the Billing Highlights list.

11. Create an Insight Type and a User Action, and map the new Insight Type and User Action to create your new program.

12. Create a User Action with the same name as the user action used in the USER_ACTION_CONTEXT_LIST of **e11y-user-action-template** fragment.
Example default value:

```
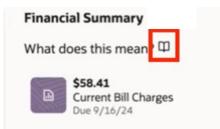[{
    "id": "ACTION_CUSTOM_EVENT",
  "label": "View",
    "active": true,
    "context": {
      "type": "CustomEvent",
      "eventId": "page:customerDashboardProgramEnrollmentEvent ",
      "eventData": {
        "eventType": "CUSTOM"
      }
    }
  }]
```

13. Preview your changes to verify that they look as you expected. This will launch a new tab with the Customer Dashboard. Navigate to the Billing Highlights and verify your user action appears in the list.

14. When your changes are ready for use, complete the steps to publish your changes to your production environment.

A

Appendix: Data Mapping

Oracle Fusion REST APIs for Contacts and Accounts are used to integrate with the Person Information Synchronization REST API in your Oracle Utilities customer information system.

The Person ID from your Oracle Utilities customer information system is stored as a Source System Reference Value with Source System of **CIS** on the Fusion Party record. The Fusion Party Number is stored as a CIS Person characteristic value with characteristic type of **C1-EXCID** for the External Contact ID.

Data element mappings for the names, contact points, and characteristic values that are synchronized between your Oracle Utilities customer information system and the Oracle Customer Experience for Utilities experiences, are included in the following table.

Data Mapping Details

This table provides data mapping details:

Table A-1   Data Mapping Details

Fusion REST API	Utility Industry Data Model API	CIS REST API	Description	Data Mappings
/contacts	/utilitiesCustomer/v1/individual	/customer/v-model/cxPersons	A contact is an individual who is a customer, a contact for a customer, a prospect, or other individual with a business relationship.	Only contacts as customers related to billing accounts in the CIS are synchronized.
/accounts	/utilitiesCommercial/v1/organization	/customer/v-model/cxPersons	An account is a business entity or organization with a relationship as a customer or sales prospect.	Only accounts as customers related to billing accounts in the CIS are synchronized.
PartyId			The unique key identifier of the contact or account or record.	
SourceSystem	sourceSystem		The name of external source system where the contact party is integrated.	Value of "CIS" in Fusion.

Table A-1   (Cont.) Data Mapping Details

Fusion REST API	Utility Industry Data Model API	CIS REST API	Description	Data Mappings
SourceSystemReferenceValue	sourceSystemReferenceValue	personId	The unique identifier for the contact or account party record from the external source system as specified in the attribute SourceSystem. Person Id is unique system assigned key identifier value for the person record in the CIS system.	
PartyNumber		cxContactId	Party number of the customer record in Fusion. This is the alternate key identifier for the contact party that is used in the path parameters for a Fusion contact or account record.	The Fusion party number is stored as CIS characteristic value with characteristic type of C1-EXCID for the External Contact ID.
		personOrBusiness	Indicates if the entity is a person or a business and impacts validation in CIS.	Value of" P" is integrated to Individual utilitiesCustomer as a Fusion contact. Value of "B" is integrated to an organization utilitiesCommercial as a Fusion account.
	primaryName	primaryName	A person's primary name is the addressee on the person's bill and other communications unless overridden by an override mailing name.	
FirstName	firstName	firstName	The first name of an individual person, does not apply to an organization.	
LastName	lastName	lastName	The last name of an individual person, does not apply to an organization.	

Table A-1   (Cont.) Data Mapping Details

Fusion REST API	Utility Industry Data Model API	CIS REST API	Description	Data Mappings
ContactPoints	contactPoint	contactDetails	Person contact points capture contact information, such as phone numbers and email addresses, URLs, messenger IDs, and so on. Only approved, active contact points are integrated.	
ContactPointId	id	contactExternalId	Unique identifier of the contact point record.	
ContactPointType	pointType		Type of the contact point. Fusion standard lookup of COMMUNICATION_TYPE and CIS configurable admin of Person Contact Types. Sample values: PHONE, EMAIL, INSTANT_MESSAGING, WEB, SMS, TLX, EDI, EFT. CIS has an Extenabdle Lookup of C1-CommRoutingMethod Lookup with values of CSS (Self-Service User), EMAIL, FAX, and PHONE.	Utility Configuration: communicationType Example: "ccsValue": "FAX", "faValue": "TLX"
EmailAddress PhoneNumber URL	value	contactDetailValue	Contains specific contact information values, such as the phone number, email address, or URL in the associated format.	
EmailPurpose		personContactType	Defines the purpose of using the email contact point. Fusion standard lookup of CONTACT_POINT_PURPOSE. Sample values: PERSONAL, BUSINESS, COLLECTIONS, ASSISTANT, etc.	Utility Configuration: EMAIL_Purpose Example: "ccsValue": "PRIMARYEMAIL", "faValue": "PERSONAL"

Table A-1   (Cont.) Data Mapping Details

Fusion REST API	Utility Industry Data Model API	CIS REST API	Description	Data Mappings
PhonePurpose		personContactType	Defines the purpose of using the email contact point. Fusion standard lookup of CONTACT_POINT_PURPOSE. Sample values: PERSONAL, BUSINESS, COLLECTIONS, ASSISTANT, etc.	Utility Configuration: PHONE_Purpose Example: "ccsValue": "CELLPHONE", "faValue": "PERSONAL"
WebPurpose		personContactType	Defines the purpose of using the WEB contact point. Fusion standard lookup of CONTACT_POINT_PURPOSE_WEB. Sample values: HOMEPAGE, RSS_FEED, etc.	Utility Configuration: WEB_Purpose Example: "ccsValue": "WEB", "faValue": "HOMEPAGE"
PhoneExtension	phoneExtension	contactDetailValueExtension	If it exists, this is the extension of the contact information when the contact's contact routing is phone or fax.	
SourceSystem			The name of external source system where the contact point is integrated.	Value of "CIS"
SourceSystemReferenceValue		contactPointId	The unique identifier for the contact point from the external source system specified in the attribute SourceSystem. Contact Point Id is unique system assigned identifier value in the CIS system.	
PrimaryFlag	primaryFlag	contactDetailPrimary	Indicates that the preferred contact point.	
Status		status	Indicates if the contact point is active or inactive. Fusion EndDate reflects active with future date in year 4712 and old date of year 1900 as inactive.	

Table A-1   (Cont.) Data Mapping Details

Fusion REST API	Utility Industry Data Model API	CIS REST API	Description	Data Mappings
		characteristics	The Oracle Utilities CIS supports configuration of characteristic types to store additional data on person record objects. This collection of data can be mapped to Fusion party attributes as part of contact or account records.	
		characteristicType	This is an extended field in the Oracle Utilities CIS that is configured per implementation as needed to store additional values.	CXIF adapters map CIS characteristics to designated Fusion attributes. Utility Configuration: characteristics Examples: "ccsValue": "C2MBTHDT", "faValue": "DateOfBirth"
		characteristicValue	This is an extensible data attribute, and stores values of the implementation defined type/value pairs.	

B

Appendix: REST APIs

This appendix provides information about the REST APIs that are used by Oracle Customer Experience for Utilities solutions.

REST APIs	Documentation Links

Metering and Customer Information REST Endpoints
 	
These REST endpoints belong to Oracle Utilities customer information systems, and include:
 	
• Admin
  – Extendable Lookup (F1-ExtendableLookup)
  – Rates (C1-Rates)
  – Service Agreement Type (C1-SAType)
• Financial Transactions
  – *Account Data (C1-AccountData)
  – Adjustment (C1-Adjustment)
  – Bill (C1-Bill)
  – Bill Segment (C1-BillSegment)
  – Payment (C1-Payment)
  – Pay Plan (C1-PayPlan)
  – *Person Data (C1-PersonData)
  – Service Agreement Data (C1-SAData)
• System Services
  – Expand Tree (F1-ExpandTree)
  – Insights (F1-Insights)
• Service
  – Work Queue (C1-WorkQueue)
• V-Model
  – Billing Context (C1-BillingContext)
  – Business Search (C1-BusinessSearch)
  – Business Person Queries (C1-PersonQueries)
  – Communication Preferences (C1-CommunicationsPreferences)
  – Customer Activity History (C1-CustomerActivityHistory)
  – Person Information Synchronization (C1-CXperson)
  – Person (C1-Person)
  – Person Search (C1-PersonSearch)
  – Premise (C1-Premise)
  – Premise Activity History (C1-PremiseActivityHistory)
  – Service Agreement (C1-ServiceAgreement)
  – Service Points Common (C1-ServicePointCommon)
  – Service Point Search (C1-ServicePointSearch)
• Usage
  – Billed Usage for SA (C1-BilledUsageData)
 	
These Inbound Web Service APIs all have a Web Service Class of **REST** and Web Service Category of **Customer Experience**.
	See Oracle Utilities Customer Cloud Service APIs.
	
	* The total and minimum collections amounts returned in the C1-AccountData and C1-PersonData services require new snapshots that require a minimum version of Oracle Utilities CIS. For prior versions, these services can only return the original amounts in collections. For additional version requirement information, see My Oracle Support Document 2876281.1My Oracle Support Document 2876281.

REST APIs	Documentation Links
Sales and Service REST Endpoint The following REST endpoints belong to the Oracle Fusion Sales and Service systems: • Contacts • Contacts / Contact Points • Contacts / Source System References • Accounts • Accounts / Contact Points • Accounts / Source System References • Service Requests • Service Request References • Hub Source System References • Industries Class • Industries Class Metadata • Industries Class Related Entities • Industries Class Relationships • Interview References • Wrap Ups • Wrap Ups References • Conversation Messages • Conversation Message References • Opportunities • Opportunity References • Sales Leads • Leads References • Standard Lookups List of Values • Search Resources • Resources	See the *REST API for CX Sales and Fusion Service Guide*, available in the Fusion Service library in the Oracle Help Center.
Utility Configurations REST Service The <CXIF-host>/admin/utilityConfigurations REST service is used to configure utility information in the CX for Industries Framework system.	To access information for this REST API, log in to My Oracle Support and view Document KB166238.
Customer Experience for Utilities REST Service The <CXIF-host>api/utilitiesAdmin/v1/<ReferenceTypeName> REST service to manage reference types such as units of measure, service types, standard usage identifiers, and other utility related information.	To access information for this REST API, see Customer Experience for Utilities REST APIs. For additional information on using this REST API, see Customer Experience for Utilities Configuration Tasks.

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Appendix: Upgrade Considerations

This appendix provides information about the steps you need to complete when you upgrade from one release of Customer Experience for Utilities to a newer release.

Task	Documentation Link
Register Applications Register your upgraded Oracle Utilities environment and Fusion applications to ensure that all new components and applications are functional in your upgraded release.	See Register Your Oracle Utilities Environment and Fusion Applications
Review Upgrade Policy Review the Upgrade Policy to verify that systems are upgraded to the appropriate release and maintenance levels to support all features and functionality.	See My Oracle Support Document ID 2876281.
Complete Content Merge of Utility Configurations Before you upgrade your solution to a new release, complete the following steps: 1. Before you provision the instance, take a backup of the configurations you entered in the UtilityConfigurations REST API by invoking: **GET: <FA API GW>/admin/ utilityConfigurations** 2. After the instance is upgraded, invoke the UtilityConfigurations REST API using: **GET: <FA API GW >/admin/ utilityConfigurations** 3. Compare the pre-upgrade configuration content to the post-upgrade content, merge any utility configurations from the pre-upgrade content to the post-upgarde content, and publish the merged content by invoking: **PUT: <FA API GW>/admin/ utilityConfigurations**	See Integration Configuration Tasks
Upgrade Extensions to Use Fragments If you have extended user actions in Agent Service or Sales, you might need to redo the configuration of those extensions to use containers. The task steps associated with the extension uses cases have been updated to reflect the use of containers.	See the updated task steps for these extension use cases: • Adding an Action to the Person and Premise Search • Adding Actions to the Quick Action Bar in Customer 360 • Adding an Action to the Customer Dashboard • Adding an Action to Premise Customer History

Task	Documentation Link
Changes to Single Sign On and User Synchronization Processes Be aware that the Oracle Fusion Applications team will be contacting Oracle customers to assist them in upgrading their single sign on (SSO) and user synchronization processes.	See the updated task steps in this guide when it is time for you to upgrade to the new processes: • Configure Single Sign On • Configure User Synchronization

Glossary

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