

# **Oracle Utilities Customer Self Service**

Whitepaper:

Erasing Personal Data

Release 2.2.0.0

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Oracle Utilities Customer Self Service Whitepaper: OUCSS Web Application

Release 2.2.0.0

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# Chapter 1

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## Overview

This whitepaper describes personal data in Oracle Utilities Customer Self Service (OUCSS) can be erased to support data privacy. The information in this document is applicable to Oracle Utilities Customer Self Service v2.1.0.2.

The following patches apply to Oracle Utilities Customer Self Service v2.2.0:

- Patch 28187591 for Oracle Utilities Customer Self Service v2.2.0 provides the ability for CSR or Admin users to delete user data from Oracle Utilities Customer Self Service and Oracle Utilities Notification Center through the **Customer Search** screen in Oracle Utilities Customer Self Service.
- Patch 28200766 for Oracle Utilities Notification Center provides ability to delete user data from Oracle Utilities Notification Center through a BPEL flow.

### Additional Resources

For additional details on Oracle Utilities Customer Self Service see the following resources:

- The *Oracle Utilities Customer Self Service Installation Guide* and the *Oracle Utilities Customer Self Service Implementation Guide* (both available at [http://docs.oracle.com/cd/E78536\\_01/index.htm](http://docs.oracle.com/cd/E78536_01/index.htm)) provide information on product installation/uninstallation, requirements, configuration, and administration.

**Note:** This document and the documentation mentioned above is subject to revision and updating. For the most recent version of this and related documentation, as well as information on functionality and known issues for other Oracle products that may be required for installation and proper functionality of this product, check the Oracle Utilities Documentation area on the Oracle Technology Network (OTN) web site ([http://docs.oracle.com/cd/E72219\\_01/documentation.html](http://docs.oracle.com/cd/E72219_01/documentation.html)).

## Software Requirements

- Oracle SQL Developer or other supported Oracle database client application

# Abbreviations

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OUCSS	Oracle Utilities Customer Self Service
OUNC	Oracle Utilities Notification Center
LDAP	Lightweight Directory Access Protocol

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# Chapter 2

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## Data Resources

This section lists various resources that Oracle Utilities Customer Self Service uses to store data related to an end user, such as *name*, *account Id*, and *person Id*.

### Tables in Oracle Utilities Customer Self Service Schema

1. **SS\_USER** : This table stores information of the end user who has a Oracle Utilities Customer Self Service web account or who has been invited to an enrolled account through the “Invite” functionality in Oracle Utilities Customer Self Service. The columns which holds user information are **USER\_ID** (user Id), **EMAIL** (Email), **FIRST\_NAME** (First name), **LAST\_NAME** (Last name), **PENDING\_CONFIRM\_EMAIL** (pending confirmation email , if email validation is turned on) related to the end user.
2. **SS\_USER\_LOB\_ACCESS\_ROLE**: This table stores the mapping between the user in **SS\_USER** table and the accounts to which the user is enrolled to. The columns which stores the mapping are “**KEY1**” ( account Id), “**KEY2**” (person Id), “**ACCOUNT\_NICK\_NAME**” (Nick name to the account given by the user).
3. **SS\_SET** : This table stores Set information. The columns storing user Set information are **SET\_NAME** (Set name) and **PARENT\_SET** (Parent set name).
4. **SS\_SET\_ACCESS**: This table stores the accounts the Set has access to . The columns storing user Set information are **GEN\_SET\_ID** (Primary key representing the Set in **SS\_SET** table), **KEY1**(accountId), **KEY2**(PersonId) and **ACCESS\_ROLE\_CD** (Access Role).
5. **SS\_SET\_USERS**: This table stores mapping between the OUCSS user and the Sets that belong to the user and the access on the Sets.The columns storing the mapping information are **GEN\_SET\_ID** (GUID of **SS\_SET** table for the Set), **GEN\_USER\_ID**(GUID of **SS\_USER** table for the user).

# Tables in Oracle Utilities Notification Center Schema

The following tables are installed when Oracle Utilities Notification center is installed. Tables are used for storing delivery channels and notification preference mapping for the delivery channels or for sending notifications out.

1. **NC\_USER\_DELIVERY\_OPT** : This table stores the delivery channels for the user. The columns storing user channel information are **USER\_ID** (User Id), **DELIVERY\_CODE**( code representing delivery channel in **SS\_DELIVERY\_TYPE** table), **DELIVERY\_INFO** (Delivery information )
2. **NC\_USER\_NOTIF\_PREF**: This table stores the preferences selected by the user for a particular account. The columns storing user preference information are **USER\_ID** (UserId),**KEY1** (account Id),**CSS\_USER** ( **GEN\_USER\_ID** from **SS\_USER** table in the Oracle Utilities Customer Self Service schema)
3. **NC\_USER\_NOTIF\_PREF\_DELIV\_OPT** : This table stores the mapping between the delivery channels in **NC\_USER\_DELIVERY\_OPT** table and preferences in **NC\_USER\_NOTIF\_PREF** table. The columns storing the mapping are **USER\_DELIVERY\_OPT\_ID**, **USER\_NOTIF\_PREF\_ID**
4. **NC\_NOTIFICATION**: This table stores the notifications sent out using Notification Center through UMS. The columns storing the notification information related to user are **USER\_ID** (User Id of the user or “CCB” in case when CCB owns the delivery channels and notification preference mapping.) , **DELIVERY\_INFO** (Delivery Information), **KEY1** (account Id), **KEY2** (Person Id) , **KEY3** (Contact Id) , **DELIVERY\_SUBJECT** (Delivery subject), **NOTIF\_TYPE\_DESCR** (Notification type description) , **NOTIF\_TEXT** (Notification text)

**Note:** The notifications in the **NC\_NOTIFICATION** table will be deleted for all the accounts enrolled in the end user’s web account. Oracle Utilities Customer Self Service users should make sure that the end user does not have other accounts other than his/her accounts enrolled into the web account.

5. **NC\_NOTIF\_DEFERRED**: This table stores the **NOTIF\_ID** from **NC\_NOTIFICATION** table for deferred notifications

## LDAP

The end user of the Oracle Utilities Customer Self Service portal who has a web account has a user created in the LDAP repository configured with Oracle Utilities Customer Self Service. Please refer to appropriate documentation for the LDAP repository being used to find out how to locate and delete the user created.

## Account Documents

The account documents listed on the **Account Documents** screen in Oracle Utilities Customer Self Service may be documents uploaded by the end user as part of “Issues Management”, or could also be the documents available in Oracle Utilities Customer Care and Billing. These documents should be deleted by the end user or CSR users as they may contain personal user information.

In order to remove these documents, please refer to **Appendix G: Account Documents Web Server** in the *Oracle Utilities Customer Self Service Installation Guide v2.2* for more information on the base package configuration of Account Documents. Also refer to the **CSS Account Documents Flows** section in *Oracle Utilities Customer Self Service Implementation Guide v2.2* for details on BPEL integration flows related to Account Documents.

Customers may have integrated and stored account documents with their own content management system. Please refer to the appropriate documentation on the content management system used for information about locating and deleting these documents.

# Chapter 3

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## Data Erasure Procedure

This chapter describes the steps to erase data from various data resources described in [Chapter 2](#).

### Use Case:

Individuals may request an organization to have their personal information erased under certain circumstances. If it is appropriate for the individual's data to be erased this can be achieved as described below

### Prerequisite Steps

Below sections are the prerequisite steps that must be completed by a database administrator before user data can be deleted.

#### If only OUCSS is used without OUNC:

1. Open a Oracle database client such as SQL Developer.
2. Connect to the Oracle Utilities Customer Self Service schema.
3. Create the REMOVE\_USERINFO PL/SQL stored procedure by running the below PL/SQL code. The user must have appropriate permission to execute this stored procedure.

```
CREATE OR REPLACE PROCEDURE REMOVE_USERINFO(
    p_userId IN VARCHAR2 )
IS
    lv_key1          VARCHAR2(20);
    lv_genUserId    VARCHAR2(30);
    lv_setUserId    VARCHAR2(30);
    CURSOR c_accounts
    IS
        SELECT key1 FROM SS_USER_LOB_ACCESS_ROLE WHERE gen_user_id =lv_genUserId;
    CURSOR c_sets
    IS
        SELECT GEN_SET_ID FROM SS_SET_USERS WHERE gen_user_id = lv_genUserId;
```



```

BEGIN
  SELECT GEN_USER_ID INTO lv_genUserId FROM SS_USER WHERE user_id = p_userId;

  /** Sets related cleanup **/
  OPEN c_sets;
  LOOP
    FETCH c_sets INTO lv_setUserId;
    EXIT
  WHEN c_sets%notfound;
    dbms_output.put_line('Set Account Deleted' || lv_setUserId || ' ');
    DELETE FROM SS_SET WHERE gen_set_id = lv_setUserId;
    DELETE FROM SS_SET_ACCESS WHERE gen_set_id = lv_setUserId;
    DELETE FROM SS_SET_USERS WHERE gen_set_id = lv_setUserId;
  END LOOP;
  CLOSE c_sets;
  DELETE FROM SS_SET_ACCESS WHERE key1 in (select key1 from SS_USER_LOB_ACCESS_ROLE
  where gen_user_id = lv_genUserId);

  /** User and account mapping cleanup **/
  DELETE FROM SS_USER WHERE gen_user_id = lv_genUserId;
  DELETE FROM SS_USER_LOB_ACCESS_ROLE WHERE key1 in (select key1 from
  SS_USER_LOB_ACCESS_ROLE where gen_user_id = lv_genUserId);;
  COMMIT;
EXCEPTION
WHEN OTHERS THEN
  BEGIN
    dbms_output.put_line('Error occurred- ' || 'code: ' || SQLCODE || ' message:
  ' || SUBSTR(SQLERRM, 1, 64));
    ROLLBACK;
  END;
END REMOVE_USERINFO;

```

**If both OUCSS and OUNC are installed and used.**

1. Create an OUNC\_LINK database Link in the Oracle Utilities Customer Self Service schema linking to the Oracle Utilities Notification Center schema. The user executing the REMOVE\_USERINFO stored procedure must have access to this database Link. Please refer to Oracle Database documentation on how to create a database link.
2. Open a Oracle database client such as SQL Developer.
3. Connect to the Oracle Utilities Customer Self Service schema.
4. Create the REMOVE\_USERINFO PL/SQL stored procedure by running the below PL/SQL code. The user must have appropriate permission to execute this stored procedure.

```

CREATE OR REPLACE PROCEDURE REMOVE_USERINFO(
  p_userId IN VARCHAR2 )
IS
  lv_key1      VARCHAR2(20);
  lv_genUserId VARCHAR2(30);
  lv_setUserId VARCHAR2(30);
  CURSOR c_accounts
  IS
    SELECT key1 FROM SS_USER_LOB_ACCESS_ROLE WHERE gen_user_id =lv_genUserId;
  CURSOR c_sets
  IS
    SELECT GEN_SET_ID FROM SS_SET_USERS WHERE gen_user_id = lv_genUserId;
BEGIN
  SELECT GEN_USER_ID INTO lv_genUserId FROM SS_USER WHERE user_id = p_userId;

  /** Sets related cleanup **/
  OPEN c_sets;

```

```

LOOP
  FETCH c_sets INTO lv_setUserId;
  EXIT
WHEN c_sets%notfound;
  dbms_output.put_line('Set Account Deleted' || lv_setUserId || ' ');
  DELETE FROM SS_SET WHERE gen_set_id = lv_setUserId;
  DELETE FROM SS_SET_ACCESS WHERE gen_set_id = lv_setUserId;
  DELETE FROM SS_SET_USERS WHERE gen_set_id = lv_setUserId;
END LOOP;
CLOSE c_sets;
DELETE FROM SS_SET_ACCESS WHERE key1 in (select key1 from SS_USER_LOB_ACCESS_ROLE
where gen_user_id = lv_genUserId);

/** OUNC related cleanup **/
DELETE
FROM NC_USER_NOTIF_PREF_DELIV_OPT@OUNC_LINK
WHERE user_delivery_opt_id IN
  (SELECT user_delivery_opt_id
   FROM NC_USER_DELIVERY_OPT@OUNC_LINK
   WHERE user_id = p_userId
  );
DELETE
FROM NC_USER_NOTIF_PREF@OUNC_LINK
WHERE user_id = p_userId
OR CSS_USER = lv_genUserId;
DELETE FROM NC_USER_DELIVERY_OPT@OUNC_LINK WHERE user_id = p_userId;
OPEN c_accounts;
LOOP
  FETCH c_accounts INTO lv_key1;
  EXIT
WHEN c_accounts%notfound;
  dbms_output.put_line('Account deleted' || lv_key1 || ' ');
  DELETE
  FROM NC_NOTIF_DEFERRED@OUNC_LINK
  WHERE NOTIF_ID =
    (SELECT NOTIF_ID FROM NC_NOTIFICATION@OUNC_LINK WHERE key1 = lv_key1
   );
  DELETE FROM NC_NOTIFICATION@OUNC_LINK WHERE key1 = lv_key1;
END LOOP;
CLOSE c_accounts;

/** User and account mapping cleanup **/
DELETE FROM SS_USER WHERE gen_user_id = lv_genUserId;
DELETE FROM SS_USER_LOB_ACCESS_ROLE WHERE key1 in (select key1 from
SS_USER_LOB_ACCESS_ROLE where gen_user_id = lv_genUserId);
COMMIT;
EXCEPTION
WHEN OTHERS THEN
  BEGIN
    dbms_output.put_line('Error occurred- ' || 'code: ' || SQLCODE || ' message:
' || SUBSTR(SQLERRM, 1, 64));
    ROLLBACK;
  END;
END REMOVE_USERINFO;

```

## Deleting User Data

Use the following steps delete user data.

**Note:** The following assumes that an end user (customer) has requested that his/her information be deleted, and has provided the *user Id* of the web account created in the Oracle Utilities Customer Self Service portal.

- Executing the REMOVE\_USERINFO PL/SQL stored procedure removes all the Accounts (seen on **Accounts** screen on OUCSS Portal) and Sets enrolled into the user's web account whose information was requested to be deleted. If these Accounts/Sets are present in any other user's web account either through invite or as an enrolled Account or Set it will be removed as well.
- It is the end user's or CSR user's responsibility to ensure that the web account has only Accounts and Sets that truly belong to the user. Access to the accounts that do not belong them should be removed, prior to deleting user's information
- CSR users should make sure all the Account Documents belonging to the end user are removed prior to executing the stored procedure (See the **Account Documents** section for more information on Account Documents).

1. Open an Oracle database client such as SQL Developer.
2. Connects to the Oracle Utilities Customer Self Service schema.
3. Execute the below statements by replacing 'john.doe' with the *user Id* of the end user whose information needs to be deleted.

```
set serveroutput on;
DECLARE
  P_USERID VARCHAR2(20);
BEGIN
  P_USERID := 'john.doe'; //This will be user id of the user requesting this
information to be deleted.

  REMOVE_USERINFO(
    P_USERID => P_USERID
  );
END;
```

4. Request the System Administrator to delete the user's record from the configured LDAP repository.
5. Request the System Administrator to delete any account documents pertaining to the user from the content management system (if applicable).