Oracle Warehouse Management Cloud

SSO and Alternate Authentication Setup

Release 21C

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Part Number: F42335-01

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Preface

Oracle® Warehouse Management Cloud SSO and Alternate Authentication Setup, Release 21C

Part No. F42335-01

This guide describes in detail how to configure and use Oracle Warehouse Management (WMS) Cloud. All functionality unless specifically noted is available in Oracle Warehouse Management Enterprise Edition Cloud. Please direct any functionality questions to *My Oracle Support*.

Change History

Date	Document Revision	Summary of Changes
5/26/2021	-01	Updates for 21C.

Using Applications

Additional Resources

- **Community:** Use *Oracle Cloud Customer Connect* to get information from experts at Oracle, the partner community, and other users.
- **Guides and Videos:** Go to the *Oracle Help Center* to find guides and videos.
- **Training:** Take courses on Oracle Cloud from *Oracle University*.

Conventions

The following table explains the text conventions used in this guide.

Convention	Meaning
boldface	Boldface type indicates user interface elements, navigation paths, or values you enter or select.
`monospace`	Monospace type indicates file, folder, and directory names, code examples, commands, and URLs.
>	Greater than symbol separates elements in a navigation path.

Contacting Oracle

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1 Oracle WMS Cloud Alternate Authentication Mechanisms

Oracle® Fusion Cloud Warehouse Management includes a built-in authentication mechanism using with users can be setup with their own user-id and passwords to access the Oracle Warehouse Management (WMS) Web UI, WMS Cloud Mobile App and Mobile RF applications. In addition, it also supports authenticating users against external identity providers (IDP). It supports multiple authentication mechanisms:

- SAML2 Single Sign On, or SSO in short
  - A web-based authentication standard that can be used only to login to the WMS Web UI
- OAuth2
  - Another authentication standard that can be used for the WMS Web UI, the WMS Cloud Mobile App and Mobile RF.

Identity Providers

Oracle Identity Cloud Service (IDCS) and Azure AD/ADFS are Identity Providers that have been tested with Oracle WMS Cloud. Other providers that support these standards may also work. Customers can request their environments to be configured to use SSO and/or Oauth2 by raising a Service Request (SR). Oracle will provide a template via the SR for customers to fill out certain technical pieces of information which will be used by our Cloud operations team to configure the customers environment.

WMS Configuration for Alternate Authentication

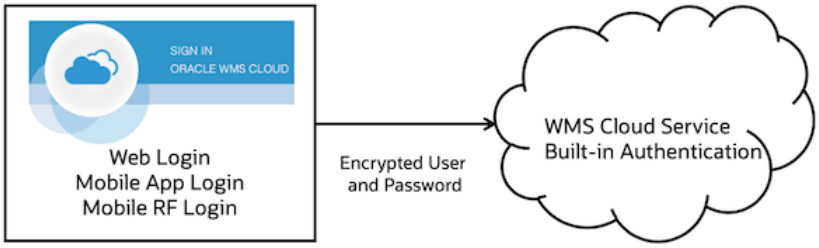
Once the WMS Cloud environment has been setup for SSO or OAuth2 authentication, usernames in WMS Cloud have to be associated with a corresponding username in the external Identity Provider. This is the “Alternate username” field in WMS Cloud and must be of the format:

<username>@<domain>

WMS Cloud users can be created/configured from the Users screen or by uploading a User Excel file from the Input Interface screen.

It is possible to have some WMS users be locally authenticated (add note about temp users) and others externally authenticated. It’s possible to have both SSO and OAuth2 backends configured for one customer.

Built-in Authentication



The user types in the username and password on the WMS Cloud login page, whether the Web, Mobile App, or Mobile RF device. The encrypted credentials are validated against the WMS Cloud Service.

OAuth2 Authentication

The user types in the username and password on the WMS Cloud login page, whether the Web, Mobile App or Mobile RF device. The encrypted credentials are sent to the WMS Cloud Service. If the username has an associated “alternate username”, WMS Cloud will delegate the authentication to the external identity provider and validate against that service. If the authentication succeeds, the user is logged into the WMS.

OAuth2 backends that have been validated with WMS Cloud are Oracle IDCS and Azure AD.

Technical Configuration for OAuth2

> **Note:** Federation and MFA (Multi Factor Authentication) are not supported. The OAuth2 flow only supports the ROPC (Resource Owner Password Credentials) grant type, as defined here:

https://tools.ietf.org/html/rfc6749#section-4.3

When submitting an SR to *My Oracle Support* to setup OAuth2 authentication, you need to provide the data per the table below. The technical details are explained in the reference links below.

Oracle IDCS Reference

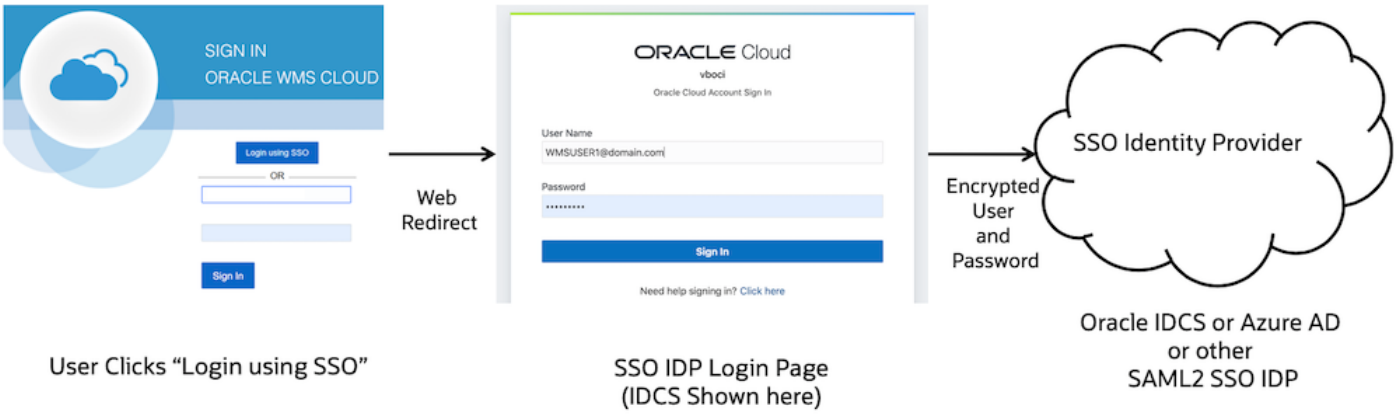
https://docs.oracle.com/en/cloud/get-started/subscriptions-cloud/csimg/obtaining-access-token-using-user-credentials-client-assertion.html

Azure AD Reference

https://docs.microsoft.com/en-us/azure/active-directory/develop/v2-oauth-ropc

Item	Description
Identity Provider Name	Name of IDP such as Azure AD or Oracle IDCS.
Endpoint URL	Used by the WMS to authenticate
Client ID	Needed for Oracle IDCS and Azure AD
Client Secret	Needed for Oracle IDCS and Azure AD
Resource/Scope	Needed for Oracle IDCS and Azure AD
X-USER-IDENTITY-DOMAIN-NAME	Needed for Oracle IDCS
Domain name	Used to link WMS username with the OAuth2 username, using "Alternate username" For example if the username is "jdoe"@somedomain.com, then the domain name is somedomain.com. **NOTE:** Customers need to provide ALL domains that they need for WMS. We don't support generic consumer domains (for example: @yahoo.com @gmail.com)

2 SSO Authentication



SAML2 SSO works a bit differently. The username and password are not entered in the WMS Cloud login page. The user instead clicks the "Login using SSO" button (which will be available after the SSO configuration has been setup by following SR process mentioned earlier). The page gets redirected to the Identity Provider's login page where the user will login using their username linked to the IDP (this is stored in the "Alternate username" field in WMS Cloud). If the authentication succeeds, a token is returned back to the WMS Cloud and the user is logged in to the application.

Note: SAML2 being a web-based standard, this mechanism can be used only to login to the WMS Cloud web UI. RF or App login will have to use either local authentication or OAuth2 authentication. It is possible for the same user to be linked to both SAML2 SSO and OAuth2 backends (the IDP has to be the same in this case), so the same user can login via SSO to the Web UI and via OAuth2 on the RF.SAML2 SSO backends that have been validated against WMS Cloud are Oracle IDCS and Azure AD.

Technical Configuration for SSO

For SAML2 SSO setup, the customer and Oracle exchange certain technical information needed to configure both systems.

Customer Provides	Oracle provides
• SAML2.0 Metadata including signing certificate. • For some IDPs customer may also need to provide additional information (details below).	• Application Service Provide ID • The public key for request signing • SAML assertion URL • Other IDP configuration

Customer provided information:

The customer configures their IDP for Cloud WMS authentication, generates the SAML2 Metadata file, and sends it to Oracle. IDPs that support SAML2 SSO will have a mechanism to generate this file, including Oracle IDCS and Azure AD.

SAML2.0 MetaData - Customer must provide IDP metadata for SAML2.0, it can be provided in a metadata.xml file or a URL allowing Oracle to download the IDP metadata from customer site.

The specific fields that are used by Oracle are explained below. In addition, for IDCS, the MyApp URL is also needed (details below) and has to be sent separately as its not part of the metadata file.

IDCS SSO Information

Item	Description
Issuer ID	Unique identifier of the IDP
MyApp URL	The binding that is used to send the response to the Identity provider. **NOTE:** IDCS also has an SSO_URL which is different. The Metadata does not include the MyApp URL
Response signature certificate (X509 Certificate) – PEM format	Will verify tokens signed by IDCS
Domain name	Used to link WMS username with the SSO username, using "Alternate username" For example if the username is "jdoe"@somedomain.com, then domain name is somedomain.com. **NOTE:** Customers need to provide ALL domains that they need for WMS. We don't support generic consumer domains (for example: @yahoo.com @gmail.com)

Note: An app has to be created in IDCS using the ROPC grant type. This is required for WMS to authenticate using IDCS.

Azure AD SSO Authentication

Item	Description
Issuer ID	Unique identifier of the IDP

Item	Description
Single Sign-On URL	The binding that is used to send the response to the Identity provider.
Response signature certificate (X509 Certificate) – PEM format	Will verify tokens signed by the IDP
Domain name	Used to link WMS username with the SSO username, using "Alternate username" For example: if the username is jdoe @somedomain.com, then the domain name is somedomain.com. **NOTE:** Customers need to provide ALL domains that they need for WMS. We don't support generic consumer domains (for example: @yahoo.com @gmail.com)

Note: The SSO assertion returned by the IDP must contain NameID tag with the alternate username configured in our application as the value. We will use that to look up a user and create a session. Example assertion with NameID:

```
<saml:Assertion xmlns:saml="urn:oasis:names:tc:SAML:2.0:assertion" ...>
...
<saml:Subject>
<saml:NameID>username@domain</saml:NameID> ...
</saml:Subject>
...
</saml:Assertion>
```