



Integrating Oracle CPQ Cloud and Microsoft Dynamics 365

Implementation Guide

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INTRODUCTION

Many sales organizations accelerate deals and increase margins by integrating Oracle CPQ Cloud to their Customer Relationship Management (CRM) system. This allows sales reps to get quotes in front of their customers quickly and accurately without help from their support staff. Microsoft Dynamics 365 for Sales (CRM) customers can integrate with Oracle CPQ Cloud, allowing their users to access CPQ Cloud from an Opportunity to create new quotes and edit existing quotes with a seamless Single Sign-On experience. Quote data and line items are then synced back to Dynamics.

Setting up the integration is simplified by installable integration packages delivered and supported by Oracle. The data integration is extensible and configurable using BML-based integrations, which build on the user integration for Azure Active Directory and improvements to the urlData BML function that allow the use of a session token and the Patch method.

PURPOSE

The purpose of this implementation guide is to provide administrators with the steps they must complete in CPQ Cloud and Microsoft Dynamics 365 to prepare for a CPQ Cloud – Dynamics 365 integration.

AUDIENCE

This implementation guide is intended for the administrators responsible for setting up and configuring the integration. This guide assumes administrators have prior CPQ Cloud and Dynamics 365 administration experience.

PREREQUISITES

The following is a list of integration prerequisites:

- CPQ Cloud Release 18A or later site
- Dynamics 365 version 9.0 or later

IMPORTANT: New customers planning to integrate CPQ Cloud with Dynamics 365 should request the provision of a Base Reference Application as their initial site image and open a Service Request (SR) on [My Oracle Support](#) to specify Dynamics 365 as their CRM provider. The BML type integration option is then available on the **Select Integration Types** page. When the integration type is enabled, administrators can create an unlimited number of BML integrations for Dynamics 365.

MICROSOFT DYNAMICS SOLUTION TO CONNECT CPQ CLOUD

Administrators must configure Dynamics 365 to support the integration with CPQ Cloud. Oracle provides a Dynamics Solution that provides a number of components that support the ability to create and edit quotes from an Opportunity. The following table identifies the components included in the Dynamics Solution.

Component	Description
Oracle Quote Entity	The representation of a CPQ Commerce Transaction, appearing as a list on the Opportunity page. This entity is where new quotes are created from and shows a list of any previously created quotes. Clicking a quote in this list opens that record for editing.
CPQ Site Settings Entity	Allows administrator to supply a number of parameters for retrieval by the integrated CPQ Cloud site.
Opportunity Entity	The representation of the Dynamics 365 Opportunity, which stores the Oracle Quotes displayed in the Oracle Quote entity.
CPQ Admin	The Admin security role name.
CPQ Admin Field Security Profile	Gives create, update, and delete rights to the Opportunity, Oracle Quote, and CPQ Site Settings.
CPQ Sales	The Sales security role name.
CPQ Sales Field Security Profile	Gives create, update, and delete rights to the Opportunity and Oracle Quote and read access to CPQ Site Settings.
Web Resources	<p>Includes the following:</p> <ul style="list-style-type: none"> • CPQ iFrame Loader: Display name of the javascript supports the display of the Oracle Quote page within an iFrame in Dynamics 365 when users create or edit quotes from Dynamics 365. • ocpq_iframe_loader: The API name of the javascript that assists with the flow for creating and editing quotes. • ocpq_style: The CSS file that styles the Oracle Quote page holding the iFrame. • ocpq_oq_icon_large: The Oracle Quote icon (32 px) • ocpq_oq_icon_small: The Oracle Quote icon (16 px) • ocpq_oa_icon_large: The CPQ Site Setting icon (32 px) • ocpq_oa_icon_small: The CPQ Site Setting icon (32 px)

DOWNLOAD THE DYNAMICS SOLUTION

Download the Dynamics Solution from My Oracle Support.

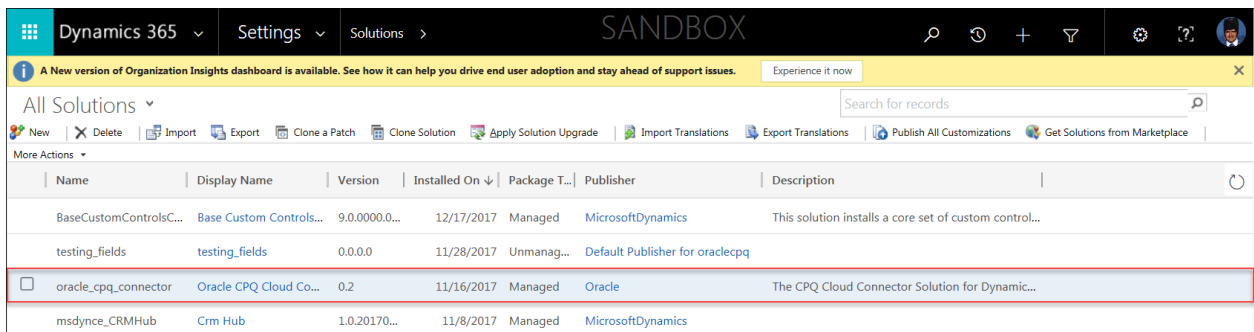
1. Log in to [My Oracle Support](#).
2. Search for the Oracle CPQ Cloud Connector Solution.
The Doc ID is 2364513.1
3. Download the Oracle CPQ Cloud Connector Solution to your computer.

INSTALL THE DYNAMICS SOLUTION

Install the Dynamics Solution to expose its components in Dynamics 365.

Complete the following steps.

1. Login to Dynamics 365 as an administrator.
2. Navigate to **Settings > Solutions**.
The **All Solutions** page opens.
3. Click **Import**.
The **Select Solution Package** window opens.
4. Click **Browse** to navigate to the Dynamics Solution.
5. Click **Open**.
The **Select Solution Package** window displays.
6. Click **Next** to install the Oracle CPQ Cloud Connector.
When installation completes, the Oracle CPQ Cloud Connector is added to the **All Solutions** page.



The screenshot shows the Dynamics 365 interface with the 'All Solutions' page open. The page title is 'All Solutions' and it includes a search bar and various action buttons like 'New', 'Delete', 'Import', 'Export', etc. A table lists installed solutions. The 'oracle_cpq_connector' solution is highlighted in blue, indicating it is selected or active. The table columns are Name, Display Name, Version, Installed On, Package T..., Publisher, and Description.

Name	Display Name	Version	Installed On	Package T...	Publisher	Description	
BaseCustomControlsC...	Base Custom Controls...	9.0.0000.0...	12/17/2017	Managed	MicrosoftDynamics	This solution installs a core set of custom control...	
testing_fields	testing_fields	0.0.0.0	11/28/2017	Unmanag...	Default Publisher for oraclecpq		
<input type="checkbox"/>	oracle_cpq_connector	Oracle CPQ Cloud Co...	0.2	11/16/2017	Managed	Oracle	The CPQ Cloud Connector Solution for Dynamic...
msdynce_CRMHub	Crm Hub	1.0.20170...	11/8/2017	Managed	MicrosoftDynamics		

All Solutions Page Displaying Oracle CPQ Cloud Connector

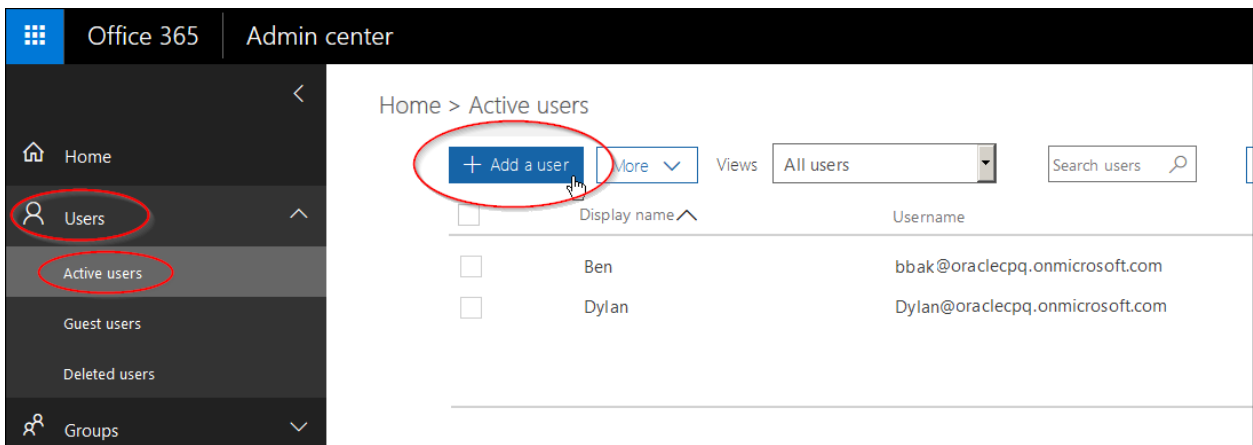
IMPORTANT: The Oracle CPQ Cloud Connector components may not be visible until customizations are published.

CREATE NEW USERS

Administrators must manually create new users in the **Office 365 Admin center** to ensure each individual who will use the CPQ Cloud – Dynamics 365 integration is a user in Office 365.

Complete the following steps:

1. Sign in to <https://www.office.com>.
2. Click **Admin app**.
3. Navigate to **Users > Active Users**.
4. Click **Add a user**.



Add a User Button in Admin Center

5. Populate all required fields.
6. Click **Add**.

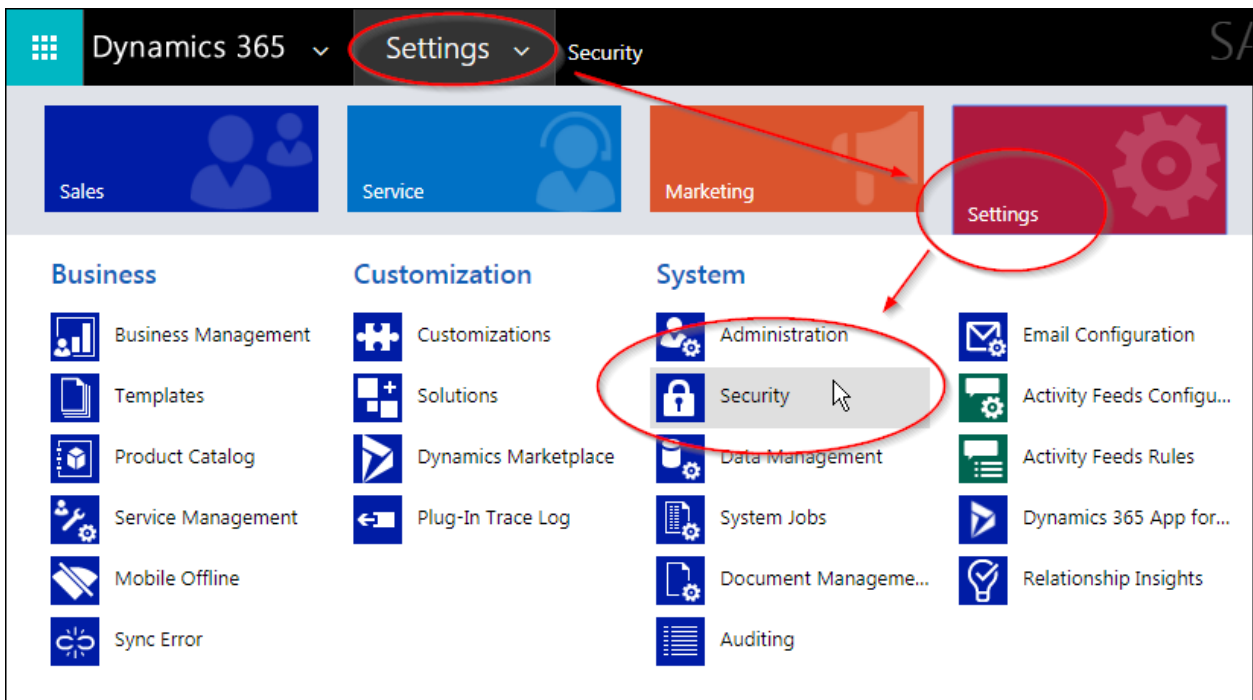
IMPORTANT: In the **Password** section, you can either force-set a password or immediately enter your desired password.

ASSIGN USERS TO ROLES

Assign users to the CPQ Admin and CPQ Sales roles included in the Dynamics Solution. The below procedure assumes users have already been created in Dynamics 365.

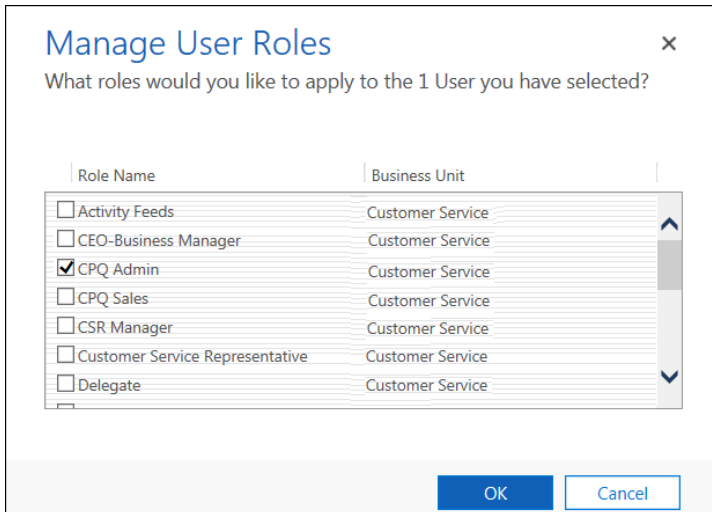
Complete the following steps:

1. Open Dynamics 365.
2. From the Navigation bar, go to **Settings > Security**.



Security Option in Dynamics 365 Settings

3. From the **Security** page, select **Users**.
4. Select the user whose roles you want to adjust.
The **User** page opens.
5. Select **Manage Roles**.
The **Manage User Roles** dialog opens.



Manage User Roles

6. Assign users to the roles included in the Dynamics Solution.

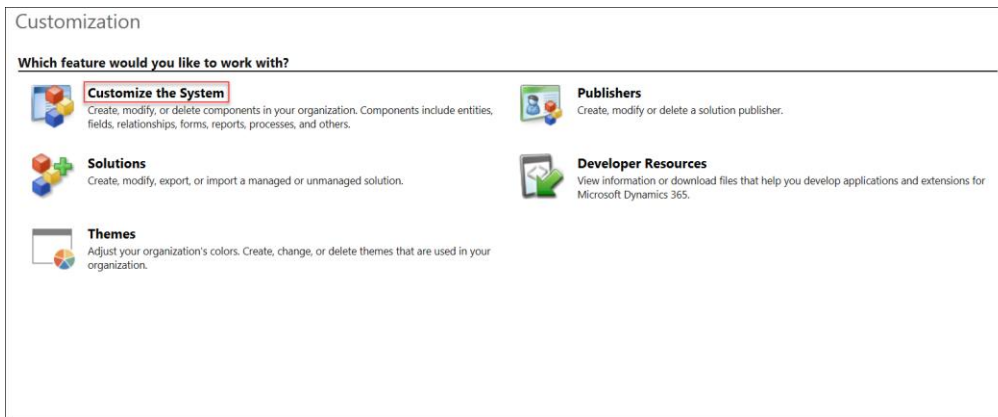
- **CPQ Sales:** Gives create and update access to the Opportunity and Oracle Quote and read access to CPQ Site Settings.
- **CPQ Admin:** Gives create and update access to the Opportunity, Oracle Quote, and CPQ Site Settings.

ADD ORACLE QUOTE ENTITY TO OPPORTUNITY LAYOUT

Adding the Oracle Quote entity to the Opportunity layout allows a list of Oracle Quotes to display on the Opportunity layout.

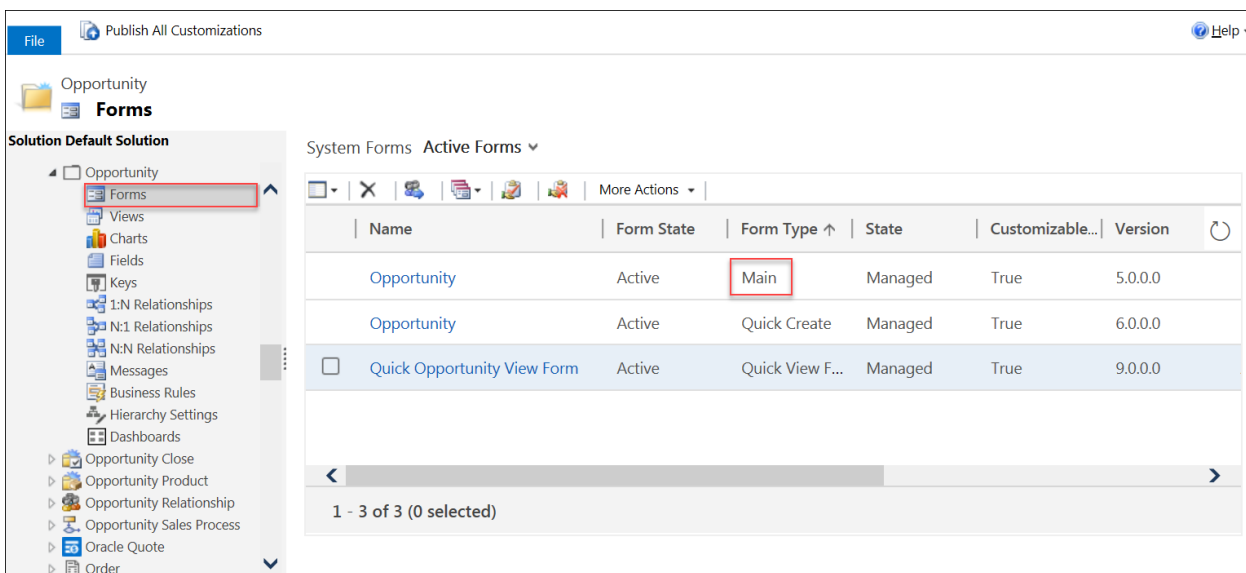
Complete the following steps:

1. Open Dynamics 365.
2. From the Navigation bar, go to **Settings > Customizations**.
The **Customization** page opens.



Customization Page

3. Select **Customize the System**.
The **Information** page opens.
4. Expand the **Opportunity** entity and select **Forms**.



Opportunity Forms

5. Open the **Main** form.
6. From the **Insert** menu, select **Sub-Grid**.
The **Set Properties** dialog opens.

Set Properties ? x

Set the List or Chart properties.

Display Formatting Controls

Name

Specify a unique name.

Name * Oracle Quotes

Name

Label * Oracle Quotes (Opportunity ID)

Display label on the Form

Panel header color #F3F3F3

Data Source

Specify the primary data source for this list or chart.

Records Only Related Records

Entity Oracle Quotes (Opportunity ID)

Default View Active Oracle Quotes

Edit New

Additional Options

OK Cancel

Set Properties Dialog

7. In the **Name** field, specify a unique name for the sub-grid.
8. From the **Records** drop-down, select **Only Related Records**.
9. From the **Entity** drop-down, select **Oracle Quotes (Opportunity ID)**.
10. From the **Default View** drop-down, select **Active Oracle Quotes**.
11. Click **OK**.
12. From the **Home tab** of the form, select **Publish**.
The Oracle Quote displays within the active Opportunity.

Dynamics 365 Sales Opportunities > Ben's Admin Opport...

NEW CLOSE AS WON CLOSE AS LOST RECALCULATE OPPORTU... FORM PROCESS ASSIGN EMAIL A LINK

OPPORTUNITY
Ben's Admin Opportunity

Est. Revenue: Status: In Progress Owner: Admin User

Qualify (Active for 55 days, ...) Develop Propose Close

Identify Contact [click to enter](#) Estimated Budget [click to enter](#) Capture Summary [click to enter](#)
 Identify Account [click to enter](#) Purchase Process [click to enter](#)
 Purchase Timeframe [click to enter](#) Identify Decision Maker [mark complete](#)

Opportunity Sales Process (Active for 55 days, 21 hours) [Next Stage](#)

Oracle Quote

Name	Buyside ID	Modified On	Created On	CPQ Site	Opportunity I...	exportBoolean...	exportCurre
Sample Quote	20,352,590	1/10/2018 8:...	12/12/2017 3:39...	010 - zTest	Ben's Admin...	No	\$5

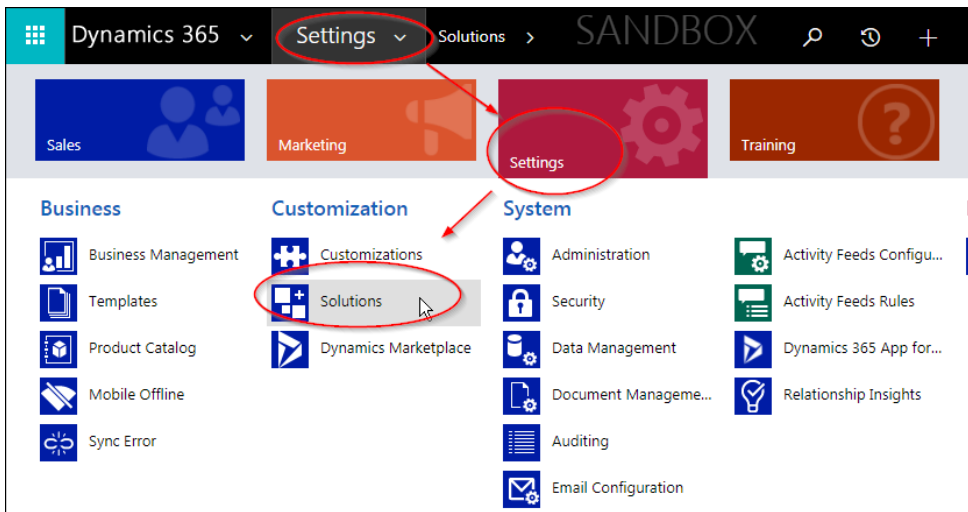
Oracle Quote Entity on Opportunity Layout

EXPOSE CPQ SITE SETTINGS

A CPQ Site Settings entity is provided for administrators to simplify the setup and integration of their company's instance of CPQ Cloud. Administrators must manually expose the CPQ Site Settings entity in Dynamics 365.

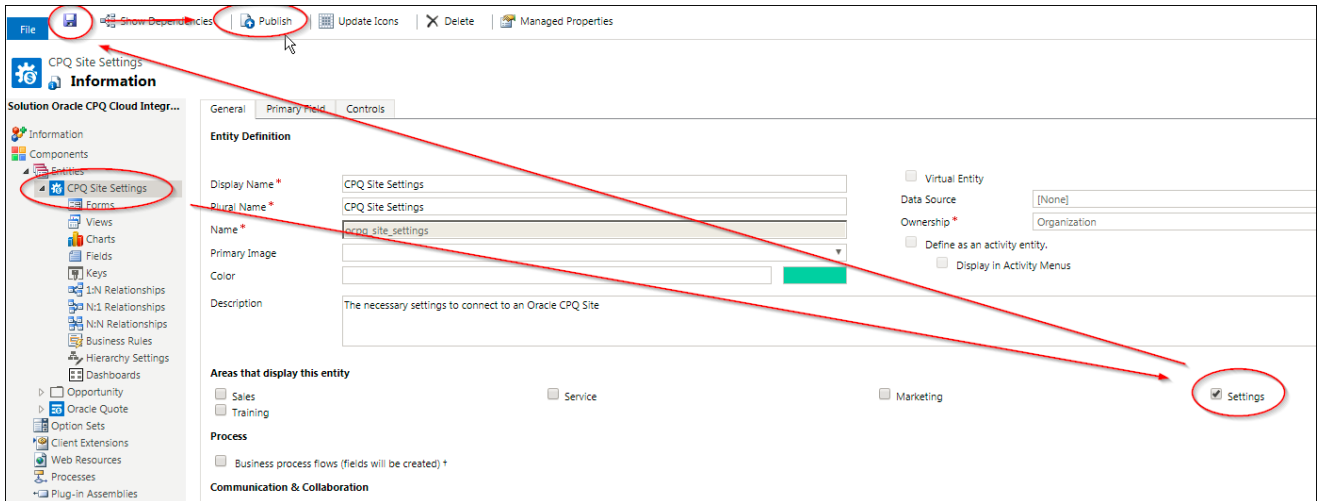
Complete the following steps:

1. Open Dynamics 365.
2. From the Navigation bar, go to **Settings > Solutions**.



Dynamics 365 Navigation Bar

3. From the **All Solutions** page, select **Oracle CPQ Cloud Connector** for Dynamics 365.
4. From the list of components, select the **CPQ Site Settings** entity.
5. Under **Areas that display this entity**, select **Settings**.



Settings Option

6. Click **Save**.
7. Click **Publish**.

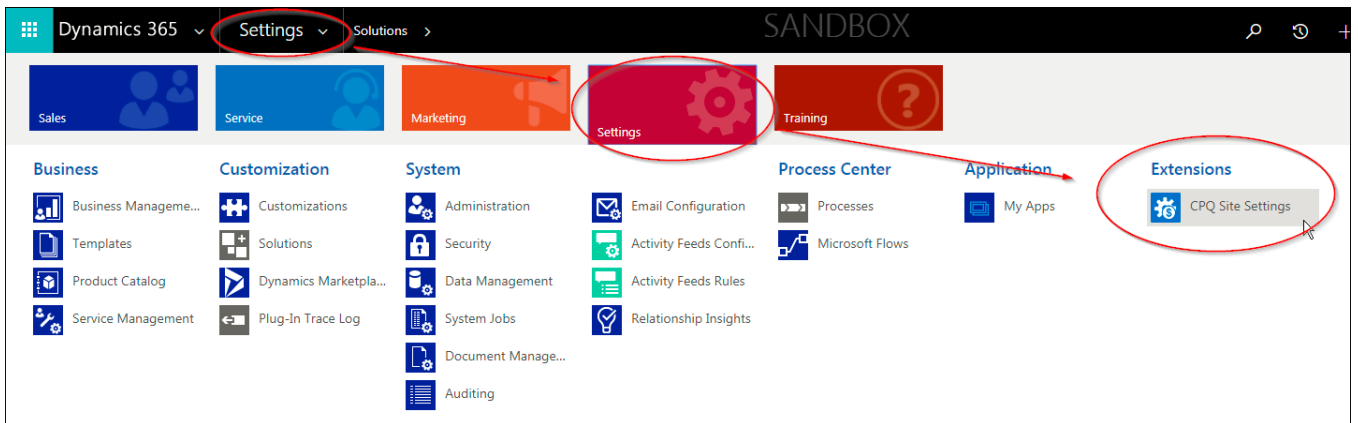
IMPORTANT: Assign the user to which you are logged in a role and profile that has access to the CPQ Site Settings entity.

CREATE CPQ SITE SETTINGS

Access the CPQ Site Settings extension in Dynamics 365 to input the necessary settings for the integrated CPQ Cloud environment. When creating CPQ Site Settings, administrators are supplying a number of parameters that the CPQ Cloud site can retrieve.

Complete the following steps:

1. Open Dynamics 365.
2. From the Navigation bar, go to **Settings** > **CPQ Site Settings**.



CPQ Site Settings

3. From the top left of the **Active CPQ Site Settings** page, click **New**.
The **New CPQ Site Settings** page opens.

A screenshot of the 'New CPQ Site Settings' page in Dynamics 365. The page title is 'CPQ SITE SETTINGS : INFORMATION' and the subtitle is 'New CPQ Site Settings'. The page is divided into sections: 'General', 'Process', 'Commerce', 'Document', and 'Open Action'. The 'General' section is expanded and contains the following fields: 'Name' (required, with a red 'x' icon), 'Site Domain' (required, with a globe icon), 'Process Name' (text input), 'Commerce Process ID' (required, with a globe icon), 'Document ID' (required, with a globe icon), and 'Open Action ID' (required, with a globe icon). The top of the page has a toolbar with 'SAVE', 'SAVE & CLOSE', 'NEW', 'FLOWS', and 'FORM EDITOR' buttons. The bottom right corner has navigation icons for up, down, refresh, and close.

New CPQ Site Settings Page

4. Populate the following settings:

- **Name:** A descriptive name for the CPQ site to which the settings apply.
- **Site Domain:** The root URL of the CPQ site to which the administrator is connecting.
- **Process Name:** The variable name of the Commerce process that launches when creating a quote.
- **Commerce Process ID:** The unique ID of the Commerce process that launches when creating a quote.
- **Document ID:** The unique ID for the Main Document in the Commerce process.
- **Open Action ID:** The unique ID of the Open action used when editing a quote.

5. Click **Save**.

IMPORTANT: When viewing the integration parameters in CPQ Cloud, the CPQ site domain cannot contain anything in its path (i.e. no slashes). To view the integration parameters, navigate to the **Integrations** page in CPQ Cloud and click **View Parameters**.

CREATE DEFAULT SITE SETTINGS FOR ORACLE QUOTES

Use the Oracle Quote entity to create default site settings for Oracle quotes. This creates a business process that sets the default CPQ Site Setting for all Oracle Quotes.

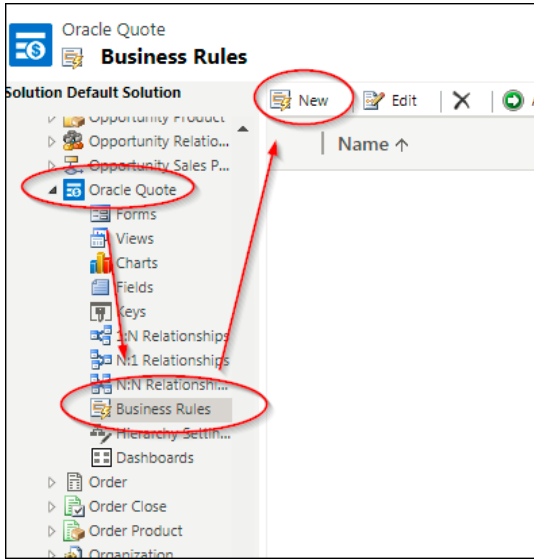
Complete the following steps:

1. Open Dynamics 365.
2. From the Navigation bar, go to **Settings > Solutions**.
3. From the **All Solutions** page, select **Oracle CPQ Cloud Connector** for Dynamics 365.
4. From the list of components, select the **Oracle Quote** entity.

The screenshot shows the configuration page for the Oracle Quote entity. The left-hand navigation pane is expanded to show the 'Entities' section, with 'Oracle Quote' selected. The main content area is titled 'Oracle Quote' and 'Information'. A yellow warning banner at the top states: 'You cannot directly edit the components within a managed solution. If the managed properties for solution components are set to allow customization, you can edit them in the Customizations area or from another unmanaged solution.' Below this, the 'General' tab is active, showing the 'Entity Definition' section. The 'Display Name' is 'Oracle Quote', 'Plural Name' is 'Oracle Quotes', and 'Name' is 'ocpq_oracle_quote'. The 'Data Source' is set to '[None]' and 'Ownership' is 'User or Team'. There are checkboxes for 'Virtual Entity', 'Define as an activity entity', and 'Display in Activity Menus'. The 'Description' field contains the text: 'The representation of the CPQ Commerce Transaction'. Below this, the 'Areas that display this entity' section has checkboxes for 'Sales', 'Service', 'Marketing', and 'Settings'. The 'Process' section has a checkbox for 'Business process flows (fields will be created)'. The 'Communication & Collaboration' section is partially visible at the bottom.

Oracle Quote Entity

5. Under **Business Rules**, select **New**.



Create New Business Rule

6. Populate the condition's properties, as follows:

- In the **Display Name** field, enter a display name for the business rule.
- In the **Entity** field, enter **Oracle Quote**.
- From the **Source** drop-down, select **Entity**.
- From the **Field** drop-down, select **CPQ Site**.
- From the **Operator** drop-down, select **Does not contain data**.
- The **Condition Expression** text box auto-populates based on your entries.

Components Properties

Condition

Display Name
CPQ Site is empty

Entity
Oracle Quote

Rules [+ New](#)

Rule 1 ×

Source
Entity

Field
CPQ Site

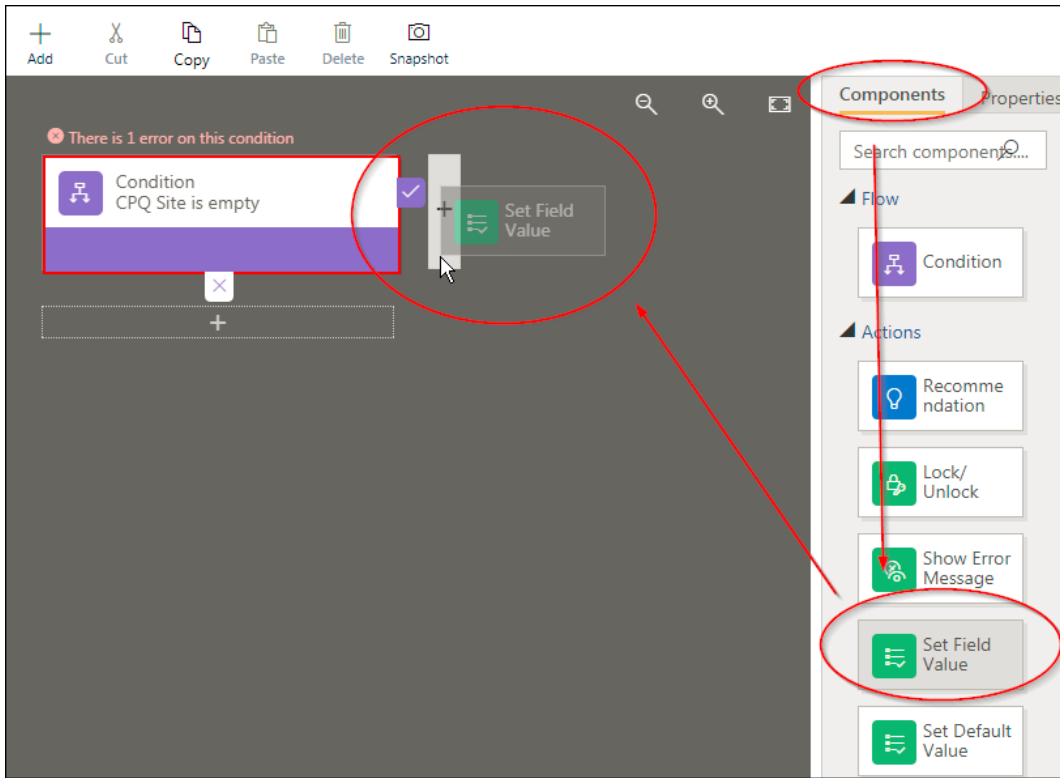
Operator
Does not contain data

Condition Expression (Text View)
(CPQ Site Does not contain data)

Apply Discard

Default Condition Properties

7. Click **Apply**.
8. Open the **Components** tab.
9. Drag the **Set Field Value** component to the condition's window.



Drag Set Field Value Component to Window

10. Populate the properties for the action, as follows:

- **Display Name:** Set Default CPQ Site
- **Entity:** Oracle Quote
- **Field:** CPQ Site
- **Type:** Value
- **Value:** Search for a pre-existing CPQ Cloud Site.

Components Properties

Set Field Value

Display Name
Set Default CPQ Site

Entity
Oracle Quote

Field Value

Field
CPQ Site

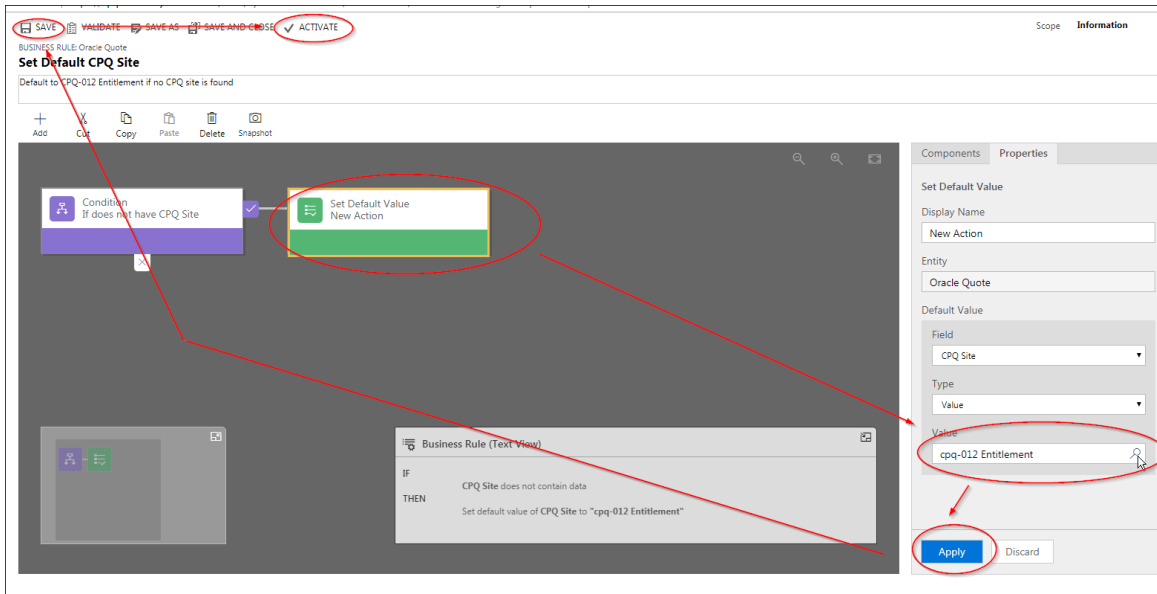
Type
Value

Value
CPQ-010 (Quotes Process)

Apply Discard

Action Properties

11. Click **Apply**.
12. Click **Save**.
13. Click **Activate**.



Default Site Settings for Oracle Quotes

EDIT DEFAULT SITE SETTINGS FOR ORACLE QUOTES

To edit the default site settings for Oracle quotes, open the Oracle Quote entity and deactivate the associated process to make it editable.

Complete the following steps:

1. Open Dynamics 365.
2. From the Navigation bar, go to **Settings > Solutions**.
3. From the **All Solutions** page, select **Oracle CPQ Cloud Connector** for Dynamics 365.
4. From the list of components, select the **Oracle Quote** entity.
5. Navigate to **Business Rules** and open the process.
6. Deactivate the process to make it editable.
7. Click **Set Default Value**.
8. Click **Value** to search for a different CPQ Site Settings record.
9. Click **Apply**.
10. Click **Save**.
11. Click **Activate**.

CPQ CLOUD INTEGRATION PACKAGE TO CONNECT MICROSOFT DYNAMICS

Administrators must configure CPQ Cloud to connect to their Dynamics 365 instance. Oracle provides a Microsoft Dynamics Integration package that administrators can import into a CPQ Cloud site. This package contains basic components to integrate a Commerce process with a Dynamics environment. When configured, these components integrate data between the systems when users create or update quotes in Dynamics 365 or mark a quote as primary and synchronize its data to the Opportunity.

IMPORTANT: For information about the components included in the Microsoft Dynamics Integration package, refer to [Appendix A: Microsoft Dynamics Integration Package Components](#).

DOWNLOAD THE MICROSOFT DYNAMICS INTEGRATION PACKAGE

Customers must download the Microsoft Dynamics Integration package from My Oracle Support.

Complete the following steps:

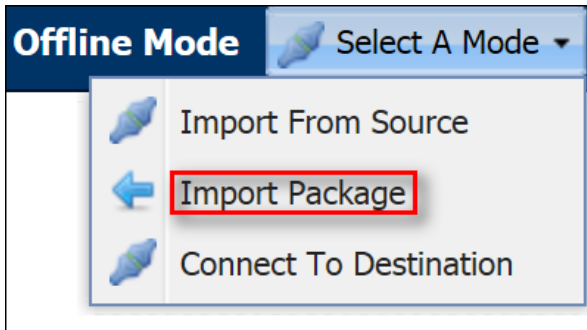
1. Log in to [My Oracle Support](#).
2. Search for the Microsoft Dynamics Integration package.
The Doc ID is 2364513.1
3. Download the package to your computer.

INSTALL THE MICROSOFT DYNAMICS INTEGRATION PACKAGE

Use the Migration Center to import and install the Microsoft Dynamics Integration package.

Complete the following steps:

1. Open the Admin Home page.
2. Under **Utilities**, select **Migration**.
The Migration Center opens.
3. From the **Offline Mode** drop-down menu, select **Import Package**.



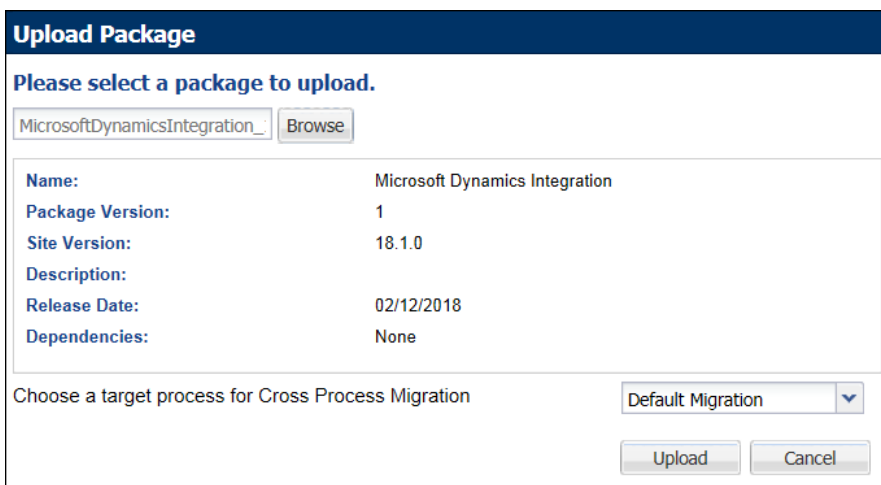
Import Package Option

4. From the **Upload Package** dialog, click **Browse**.



Upload Package Dialog

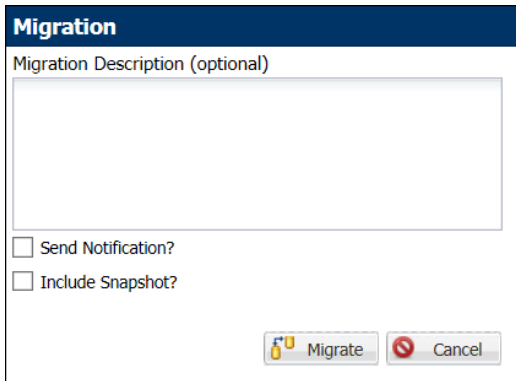
5. Select the downloaded package from your computer.
6. Click **Open**.
7. From the **Upload Package** dialog, click **Upload**.



Upload Package Dialog

8. Click **Migrate**.
The **Migration** dialog opens.

9. (Optional) Enter a Migration Description.



The Migration Dialog box has a dark blue header with the title "Migration". Below the header is a text input field labeled "Migration Description (optional)". Underneath the text field are two checkboxes: "Send Notification?" and "Include Snapshot?". At the bottom right of the dialog are two buttons: "Migrate" (with a blue and yellow icon) and "Cancel" (with a red and white icon).

Migration Dialog

10. Click **Migrate**.
11. Monitor the progress of the migration in the **Status** area at the bottom of the page.
12. When the migration completes, click **Logs** at the bottom of the page.
The **Migration Logs** window opens and indicates the success or failure of the migration.

CONFIGURE DATA SYNCHRONIZATION

Use the "ImportMappings" and "ExportMappings" data tables included in the Microsoft Dynamics Integration package to configure data synchronization between CPQ Cloud and Dynamics 365. Default mappings are available in these data tables. Administrators can update these mappings, as necessary. When **Save** is clicked from the **Oracle Quote** page, all mapped fields are saved from CPQ Cloud to the appropriate **Oracle Quote** field in Dynamics 365.

Complete the following steps to view or modify the default mappings:

1. Open the Admin Home page.
2. Under **Developer Tools**, click **Data Tables**.
3. Expand the **Integration** folder.
4. Double click the **ExportMappings** or **ImportMappings** data table.
The data table opens and displays the default mappings.

SET THE OPPORTUNITY ID

Administrators must set the mSDYNOpportunityId_t field as the quote's opportunity ID.

Complete the following steps to set the Opportunity ID:

1. Log in to CPQ Cloud as an administrator.
2. Under **Commerce and Documents**, click **Process Definition**.
The **Processes** page opens.
3. Navigate to the Commerce process associated with the integration.
4. From the associated **Navigation** menu, select **Documents**.
5. Click **List**.
The **Document List** page opens.
6. Click **Main** from the **Document Name** column.
The **Add Document** page opens.
7. Enter **transaction.mSDYNOpportunityId_t** In the **Opportunity Id Mapping** field.
8. Click **Update**.
9. Deploy Commerce.

DEFAULT MAPPINGS - EXPORTMAPPINGS DATA TABLE

Shown below are the default mappings for the “ExportMapping” data table.

#	entity	field	fieldsReference	document	attribute	process
1	ocpq_oracle_quotes	ocpq_oracle_quoteid	false	transaction	mSDYNQuoteId_t	oraclecpqo_bmClone_1
2	ocpq_oracle_quotes	ocpq_bs_id	false	transaction	bs_id	oraclecpqo_bmClone_1
3	ocpq_oracle_quotes	ocpq_name	false	transaction	bs_id	oraclecpqo_bmClone_1
4	opportunities	ocpq_Opportunity_id	true	transaction	mSDYNOppportunityId_t	oraclecpqo_bmClone_1
5	opportunityproducts	opportunityproductid	false	transactionLine	mSDYNOppportunityLineId_t	oraclecpqo_bmClone_1
6	opportunityproducts	quantity	false	transactionLine	_price_quantity	oraclecpqo_bmClone_1
7	opportunityproducts	description	false	transactionLine	_part_desc	oraclecpqo_bmClone_1
8	opportunityproducts	productdescription	false	transactionLine	_part_number	oraclecpqo_bmClone_1
9	opportunities	opportunityid	true	transactionLine	mSDYNOppportunityId_t	oraclecpqo_bmClone_1

Default Mappings - ExportMappings Data Table

DEFAULT MAPPINGS - IMPORTMAPPINGS DATA TABLE

Shown below are the default mappings for the “ImportMappings” data table.

#	entity	field	fieldsReference	document	attribute	process
1	opportunities	opportunityid	true	transaction	mSDYNOppportunityId_t	oraclecpqo
2	opportunityproducts	opportunityproductid	false	transactionLine	mSDYNOppportunityLineId_t	oraclecpqo

Default Mappings - ImportMappings Data Table

IMPORTANT: The Dynamics Solution includes an Opportunity entity, Opportunity line items, and a Quote entity. For data mapping purposes, entity attributes are referred to as fields.

DATA TABLE COLUMNS

Descriptions of the columns included in the “ImportMappings” and “ExportMappings” data tables are provided below.

Column Name	Description
entity	The name of the entity containing the mapped field. Options include: ocpq_oracle_quotes, opportunities, and opportunityproducts.
field	The name of the mapped entity field.
fieldIsReference	Indicates whether the field is a Lookup field in Dynamics 365.
document	The level at which the field mapping occurs (e.g. transaction or transactionLine).
attribute	The name of the Document or Sub Document attribute to import or export.
process	The variable name of the active Commerce process.
isExternalID	Indicates whether the ID for the associated entity is an external ID. *Available only in the ExportMappings data table.
dataType	The format in which mapped fields are saved to the Oracle Quote in Dynamics 365 during data export. Supported options include Text, Floating Point Number, Decimal Number, Currency, Multiple Lines of Text, Date and Time, Whole Number (Integer), Option Set, Multi-Select Option Set, or Two Option (Boolean).

SINGLE SIGN-ON SOLUTION

CPQ Cloud administrators can use functionality introduced in CPQ Cloud Release 17D to allow Dynamics 365 users to seamlessly access CPQ Cloud using the integration's Single-Sign On functionality.

ENABLE OAUTH ON CPQ CLOUD SITE

OAuth is an industry standard technology that allows customers to grant third-party access to their application without sharing their passwords. Administrators must enable OAuth on the CPQ Cloud site integrated with Dynamics 365.

Complete the following steps:

1. Open the Admin Home page.
2. Under **General**, select **General Site Options**.
The **Options – General** page opens.
3. Set the **Enable CRM OAuth** option to **Yes**.
4. Click **Apply**.

INSERT ACCESS TOKEN IN HEADER OF URL DATA FUNCTION

When integrating CPQ Cloud with a CRM system such as Microsoft Dynamics 365, the integration uses an OAuth access token to authenticate user access to the CRM system. Generated automatically when the user accesses CPQ Cloud from the CRM system, the token supports the synchronization of data between CPQ Cloud and the CRM system.

CPQ Cloud Release 17D and later allows administrators to use a BML function to retrieve a user's access token during a Microsoft Dynamics 365 integrated session. By inserting an access token into the header of a BML URL data function, CPQ Cloud can securely write data to Dynamics 365.

`$_access_token_dynamics365$` - For Microsoft Dynamics 365 integrated sessions

When using OAuth-based Single Sign-On from Dynamics 365 to access CPQ Cloud, the system replaces the access token variables above in an "urlData" function with the user's active access token. This establishes a secure connection between CPQ Cloud and Dynamics 365.

For example:

The header would appear as follows to request a list of Microsoft Dynamics 365 opportunities:

```
headers=dict("string");  
put(headers, "Authorization", "Bearer $_access_token_dynamics365");  
response=urldata(https://api/data/v8.2/opportunities , GET,  
headers);  
print response; //prints out opportunity information
```

NOTES:

- If the user does not have an integrated session, the access token variable is replaced with a blank.
- The partner login icon will generate a token for the user as long as the user has generated a token and logged in at least once in the past.
- An invalid or expired access token results in an error from the target system.

USER INTEGRATION FOR MICROSOFT AZURE ACTIVE DIRECTORY

The CPQ Cloud and Microsoft Dynamics 365 user integration supports the use of Microsoft Azure Active Directory to grant application access to user data. This enhancement provides initial functionality in support of a BML-based integration between CPQ Cloud and Microsoft Dynamics 365. Using Azure Active Directory as the identify provider (IdP), Microsoft Dynamics 365 users can seamlessly access CPQ Cloud using the integration's Single-Sign On (SSO) functionality.

LOCATE YOUR TENANT NAME

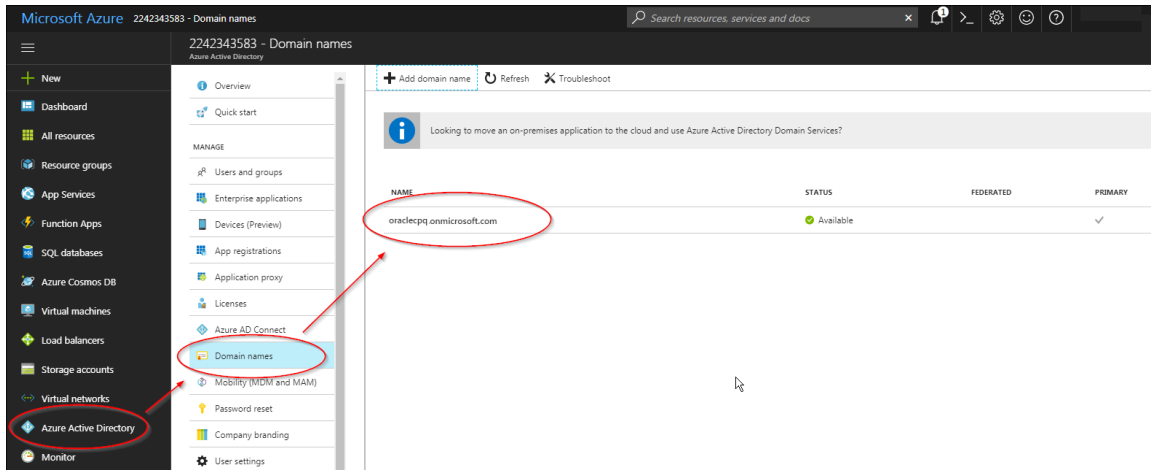
An organization receives a tenant ID upon signing up for a Microsoft cloud service. The tenant ID is used as a reference in Azure Active Directory and Microsoft Dynamics 365. The tenant name is the domain name of the Azure Active Directory.

In CPQ Cloud 17D, administrators can configure SSO between Azure Active Directory and CPQ Cloud by completing the following steps:

- Locate your tenant name in Azure Active Directory
- Create an app registration in Azure Active Directory
- Define Permissions in Azure Active Directory
- Prepare the Azure App for CPQ Cloud integration
- Prepare CPQ Cloud for Azure App integration

Complete the following steps:

1. Log in to Microsoft Azure.
2. Navigate to **Azure Active Directory > Domain names**.



Domain Name in Azure Active Directory

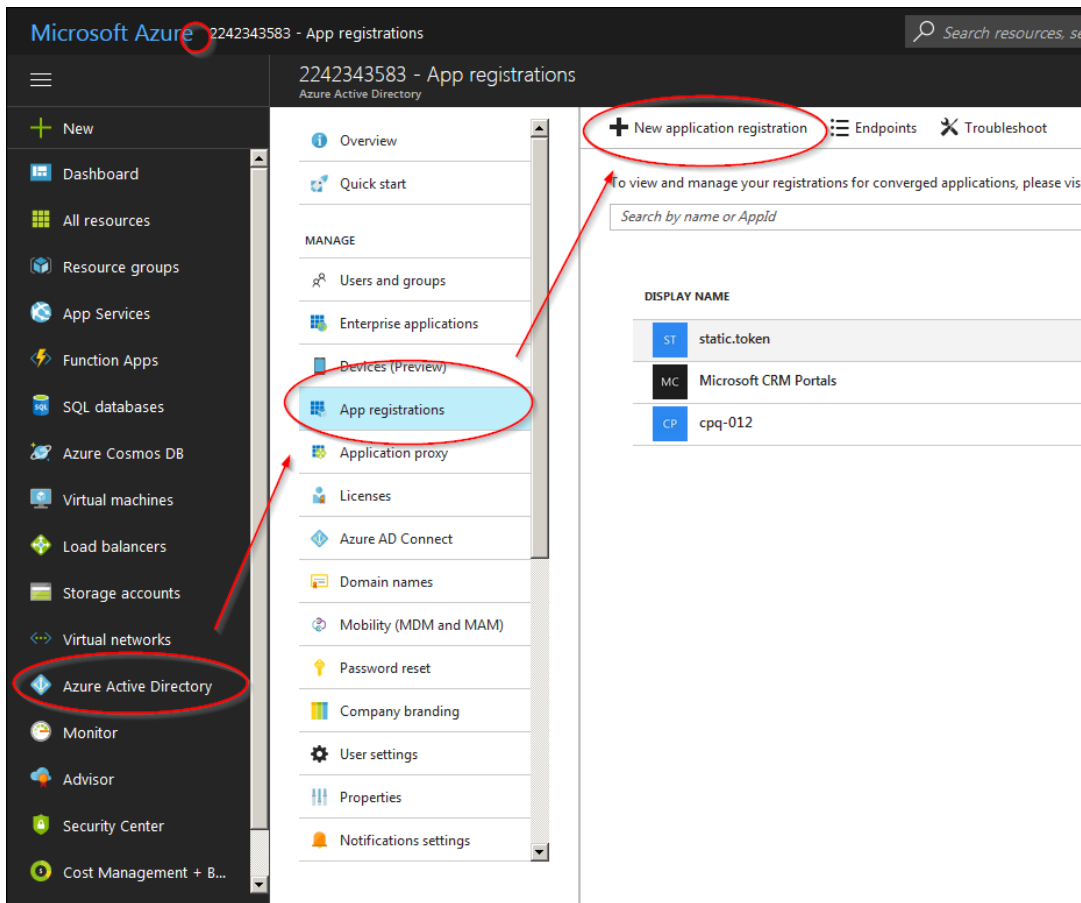
3. Copy the domain name.
You will use the domain name (i.e. tenant name) when creating an app registration.

CREATE AN APP REGISTRATION

Register Microsoft Dynamics 365 in the Azure portal to add the application to the Microsoft Azure Active Directory and create an Application ID. The Application ID allows Microsoft Dynamics 365 to receive access tokens.

Complete the following steps:

1. Log in to Microsoft Azure.
2. Navigate to **Azure Active Directory > App registrations**.



Microsoft Azure Portal

3. Click **New application registration**.
A dialog for creating the registration opens.

The screenshot shows a registration form with three input fields and a button. The first field is labeled '* Name' with an information icon and a green checkmark. The second field is labeled 'Application type' with an information icon and a dropdown arrow. The third field is labeled '* Sign-on URL' with an information icon and a green checkmark. At the bottom of the form is a blue 'Create' button.

Registration Details

4. In the **Name** field, enter a name for the app registration.
5. In the **Application type** field, enter Web app / API.
6. In the **Sign-on URL** field, enter the following:
`https://<root_domain>/admin/oauth2/dynamics365/oauth_callback.jsp`

NOTE: The Sign-on URL is used to populate the default "Reply URLs".

7. Click **Save**.

DEFINE PERMISSIONS

Define the permissions to which the Microsoft Dynamics 365 app requires access. Select the following options when setting permissions:

- Application Permissions
- Delegated Permissions
- Access CRM Online as organization users

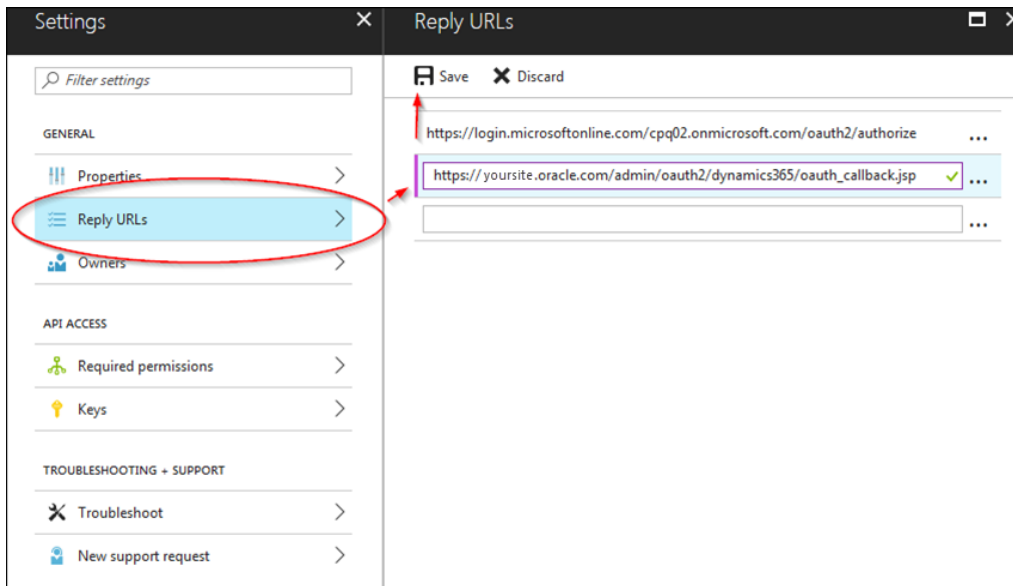
NOTE: For additional information, refer to the [Azure Active Directory](#) documentation.

PREPARE THE AZURE APP FOR CPQ CLOUD APP INTEGRATION

A Reply URL is the location to which Azure Active Directory sends an authentication response (i.e. token) when authentication is successful. Administrators must specify a Reply URL, which is the URL from which Dynamics sales users can access CPQ Cloud.

Complete the following steps:

1. Log in to Microsoft Azure.
2. Navigate to **Azure Active Directory** > **App registrations** > **Your_pre_existing_app**.
3. Click **Reply URLs**.
4. Enter the Reply URL for CPQ Cloud, which is typically:
`https://<root_domain>/admin/oauth2/dynamics365/oauth_callback.jsp`



Reply URL

5. Click **Save**.

PREPARE CPQ CLOUD FOR AZURE APP INTEGRATION

Administrators must open a Service Request (SR) on [My Oracle Support](#) to enable SSO for a CPQ Cloud – Microsoft Dynamics 365 integration. Before doing so, locate the following information and include the information in the SR:

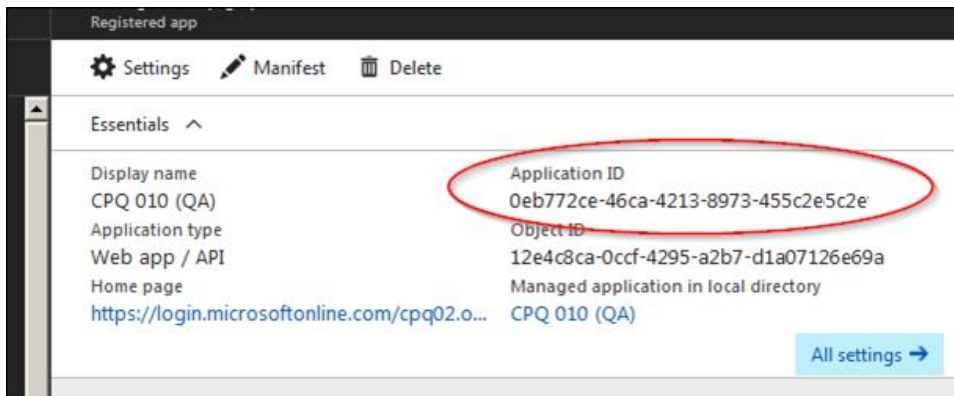
- Client ID
- Identity Provider URI and Tenant
- Client Secret
- Resource URI

Get the Client Id

A Client ID is a unique ID synonymous with the Application ID that allows Microsoft Dynamics 365 to receive access tokens.

Complete the following steps:

1. Log in to Microsoft Azure.
2. Navigate to **Azure Active Directory > App registrations > Your_pre_existing_app**.
3. Copy the Application ID.



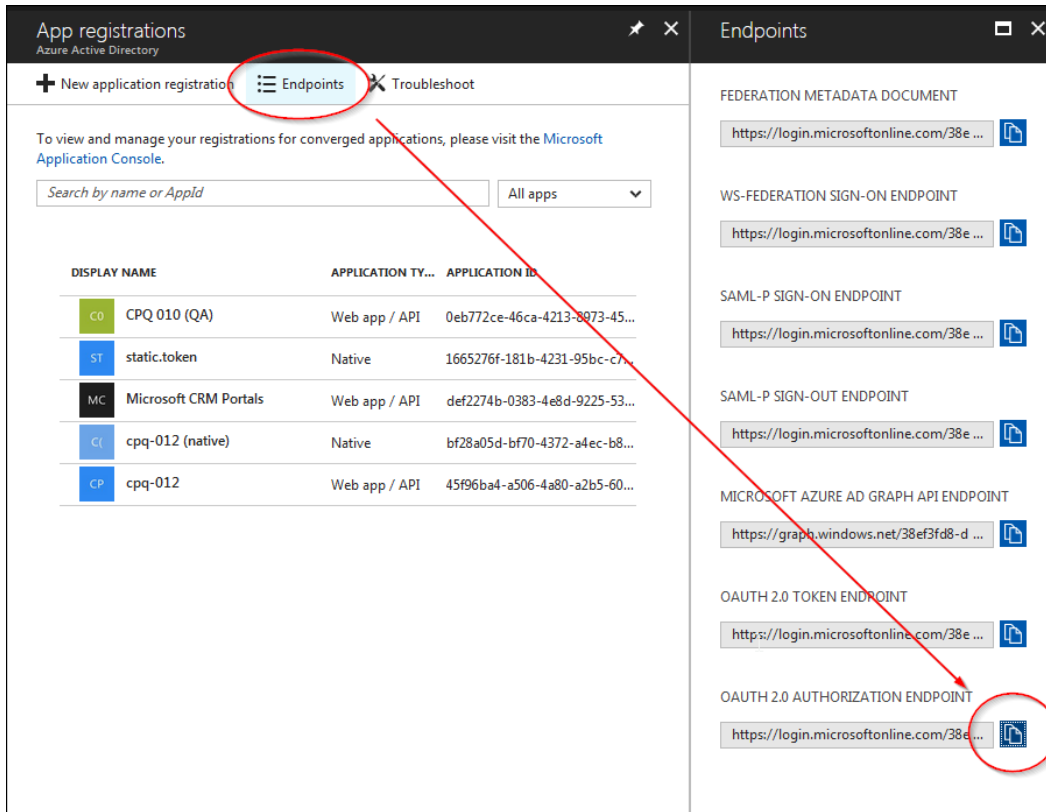
Application ID

Get the Identity Provider URI and Tenant

In a CPQ Cloud – Microsoft Dynamics 365 integration, Microsoft Azure functions as a cloud-based identity and access management solution. The Identity Provider URI is the domain of the Azure Active Directory URL. The tenant is the first path in the Azure Active Directory URL and proceeds the Identity Provider URI. Only the Active Directory URLs specified can authenticate users.

Complete the following steps:

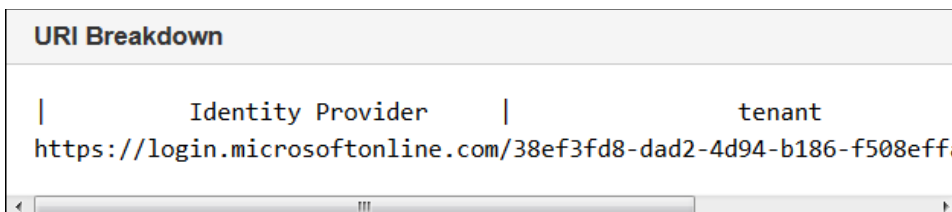
1. Log in to Microsoft Azure.
2. Navigate to **Azure Active Directory > App registrations**.
3. Click **Endpoints**.
4. Copy the OAUTH 2.0 AUTHORIZATION ENDPOINT.



OAuth 2.0 Authorization Endpoint

5. Locate the Identity Provider URI and the tenant.

- The Identity Provider URI is the domain of the Azure Active Directory URL and looks similar to: <https://login.microsoftonline.com>
- The tenant is the first path in the Azure Active Directory URL and looks similar to: 38ef3fd8-dad2-4d94-b186-f508effa50af



Identity Provider URI and Tenant

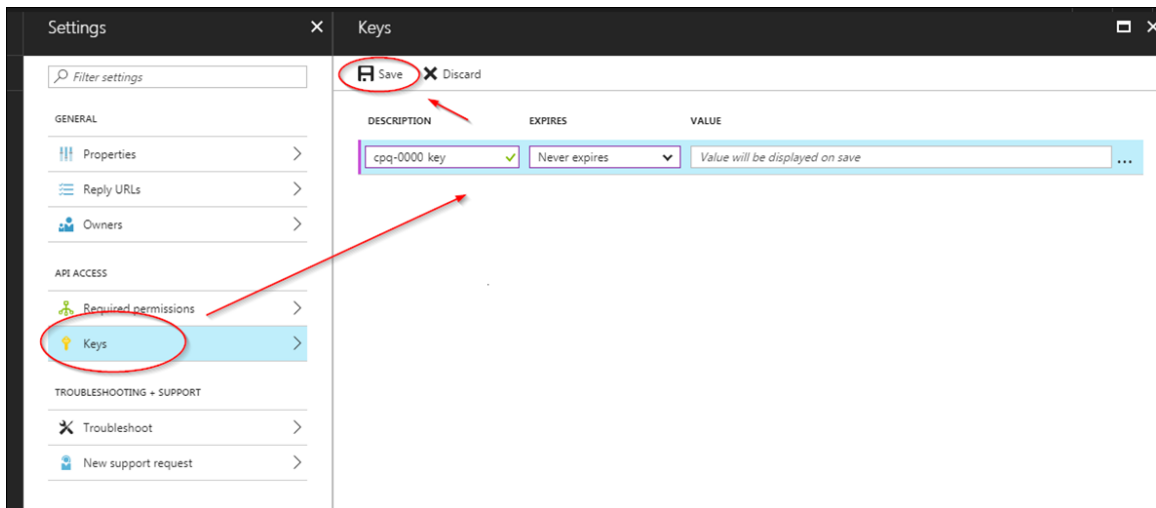
NOTE: The tenant ID shown above and the tenant name referenced in the Locate Your Tenant Name section are interchangeable. Microsoft accepts both the Azure Portal's domain and the ID as acceptable tenants. The values both point to the same location.

Get the Client Secret

SSO between Dynamics and CPQ Cloud requires a client secret.

Complete the following steps:

1. Log in to Microsoft Azure.
2. Navigate to **Azure Active Directory** > **App registrations** > **Your_pre_existing_app**.
3. Click **Keys**.
4. Create your key, which will generate your secret.
 - Provide a description for the key.
 - Select **Never expires** from the **Expires** menu.
 - Leave the **Value** field blank.



Key Details

5. Click **Save** to generate the client secret.

6. Copy the value in plain text and include it in the Service Request (SR) you create on [My Oracle Support](#). An Oracle support technician will encrypt your client secret.

DESCRIPTION	EXPIRES	VALUE
cpq-002 key	12/31/2299	LNt+79Dlse sxlZuwX4Y0k3Zq79Dlse

Client Secret

NOTE: Administrators must copy the client secret. They cannot access the client secret at a later time.

Get the Resource URI

The Resource URI is the environment to which the app registration has data access, which is either the Dynamics 365 production or sandbox environment.

Complete the following steps:

1. Log in to the Microsoft Dynamics 365 site that will use SSO to access CPQ Cloud.
2. Copy the URL, trimming off everything except the domain.
For example: <https://yoursite.crm.dynamics.com>

ENABLE SINGLE SIGN-ON

Enabling Single Sign-On allows sales representatives to access CPQ Cloud pages from Dynamics 365. Open a Service Request (SR) on [My Oracle Support](#) to enable Single Sign-On for your CPQ Cloud – Dynamics 365 integration. Include the Client ID, Identity Provider URI, Client Secret, and Resource URI from the previous section in the SR.

BML INTEGRATION TYPE FOR COMMERCE

CPQ Cloud Release 18A adds a new Commerce Integration type called BML. These BML integrations have all the power and flexibility of BML functions and administrators can define and enable them on actions under the Integrations tab, similar to SOAP-based Integrations and ICS Integrations. The basic BML functions used to send data to Dynamics 365 via RESTful web services are included in the CPQ Cloud migration package.

SPECIFY DYNAMICS 365 AS CRM PROVIDER

Open a Service Request (SR) on [My Oracle Support](#) to specify Dynamics 365 as your CRM provider. The BML type integration option is then available on the **Select Integration Types** page. When the integration type is enabled, administrators can create an unlimited number of BML integrations for Dynamics 365.

IMPORTANT: New customers integrating CPQ Cloud with Dynamics 365 should request a Base Reference Application provisioned as their initial site image.

CREATE BML INTEGRATIONS

Create a BML integration for each Commerce Library Function included in the Microsoft Dynamics Integration package. Administrators have the option of adding additional custom integrations.

Complete the following steps:

1. Open the Admin Home page.
2. Under **Commerce and Documents**, select **Process Definition**.
The **Processes** page opens. Once enabled, the BML type integration is available across all existing and newly created processes on the site.
3. From the **Navigation** menu next to the target process, select **Integrations**.
4. Click **List**.
The **Integrations** page opens.
5. Click **Add**.
The **Select Integration Types** page opens.
6. Select the **BML** option.

Select	Type
<input type="radio"/>	Export (SOAP Generator)
<input type="radio"/>	Import (Query Generator and Result Parser)
<input type="radio"/>	Integration Cloud Service
<input checked="" type="radio"/>	BML

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Select Integration Types Page with BML Option

- Click **Next**.
The **Edit Integration** page opens.

Edit Integration Process : Quotes

Integration Information

*Name:

*Variable Name:

Description:

*Integration Type: BML

BML Function

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Edit Integration Page

- In the **Name** field, enter a name for the BML integration.
For example: Import Quote Data, Export Quote Data, Export Line Data, or Upsert Primary Quote Info.
- The **Variable Name** field auto-populates upon clicking in or tabbing to the field.
- (Optional) In the **Description** field, provide a description of the integration.
- Click **Define**.
The **Select Attributes** page opens.
- Select a Commerce Library Function included in the migration package or create a custom integration.
- Click **Next**.
The **BML Editor** opens.
- Enter BML for the Commerce Library Function.
The following screenshots provide sample BML for the various Commerce Library Functions.

IMPORTANT: For a better understanding of the sample BML, refer to Appendix B. BML Syntax for Commerce Library Functions.

BML Editor

BML Debugger

Variable Name for (Transaction)	Type	Description
Imported Commerce Functions		
String mSDYNImportDataForQuote(String processName, String mappingTableName)		

Expected return type - String [Editor Help](#) [Return/Input Values Help](#)

Operators: + - * / () = <> < > <= >= == MOD AND NOT OR

```

1 return commerce.mSDYNImportDataForQuote(
2   "oraclecpqo_bmClone_1",
3   "ImportMappings"
4 );

```

Functions: All Functions, atoi, atof, decodebase64, encodebase64, endswith, formatascurrency, find, getcurrencyvalue, Add

Position: Ln 4, Ch 3 Total: Ln 4, Ch 85

Sample BML – Import Data For Quote Library Function

BML Editor

BML Debugger

Variable Name for (Transaction)	Type	Description
Imported Commerce Functions		
String mSDYNExportDataForQuote(String processName, String mappingTableName, Json_data)		
Json mSDYNCollectQuoteFields()		

Expected return type - String [Editor Help](#) [Return/Input Values Help](#)

Operators: + - * / () = <> < > <= >= == MOD AND NOT OR

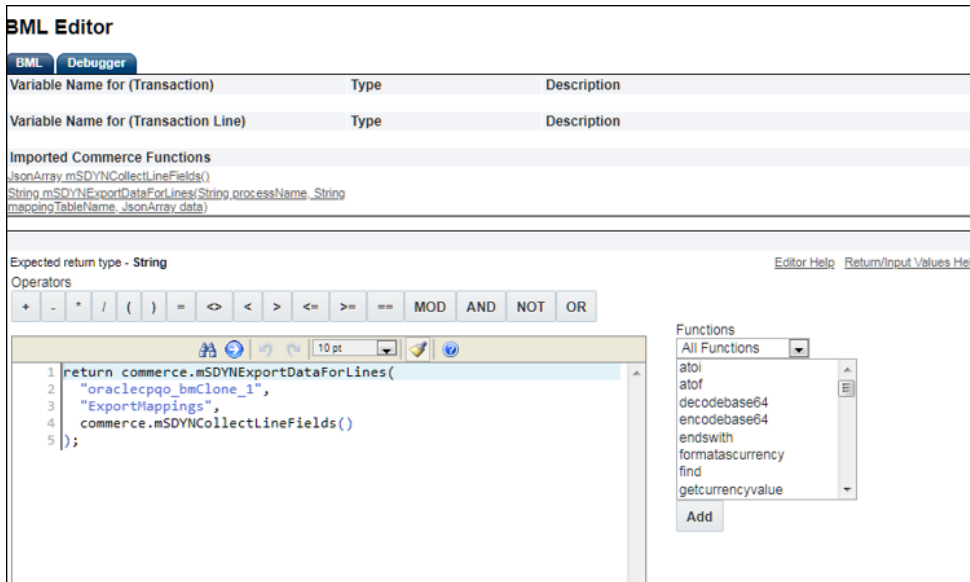
```

1 return commerce.mSDYNExportDataForQuote(
2   "oraclecpqo_bmClone_1",
3   "ExportMappings",
4   commerce.mSDYNCollectQuoteFields()
5 );

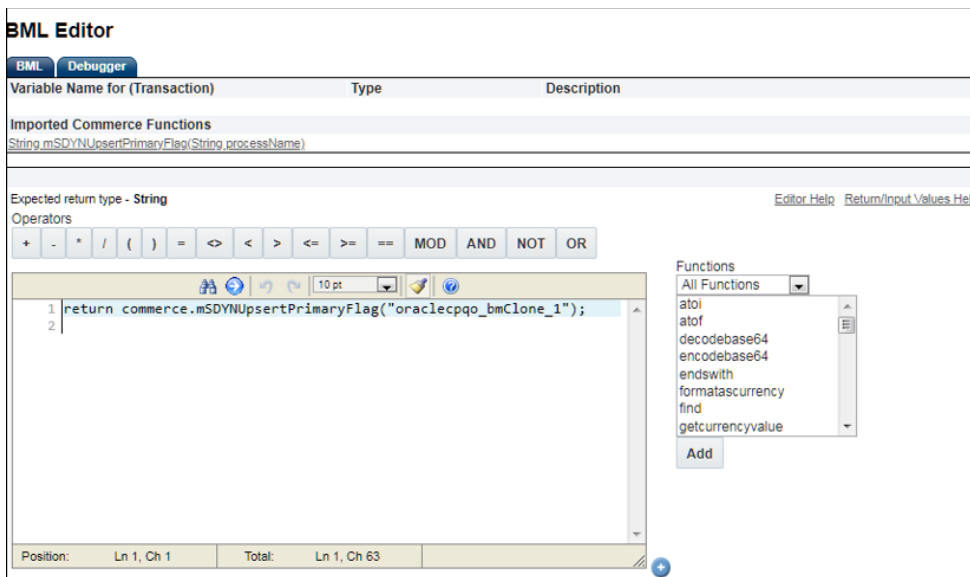
```

Functions: All Functions, atoi, atof, decodebase64, encodebase64, endswith, formatascurrency, find, getcurrencyvalue, Add

Sample BML – Export Data For Quote Library Function



Sample BML – Export Data For Lines Library Function



Sample BML – Upsert Primary Flag Library Function

15. Click **Save and Close** to return to the **Edit Integration** page.

16. Click **Save**.

The new BML integration displays on the **Integrations** page along with all other BML integrations.

IMPORTANT: To update a BML integration, select the integration name from the **Integrations** page to open the **Edit Integration** page.

MODIFY THE COLLECT QUOTE FIELDS COMERCE LIBRARY FUNCTION

Add any fields that are mapped in the “ExportMappings” data table to the Collect Quote Fields Commerce Library Function. Refer to line 12 for the method with which to add any custom mappings.

Commerce BML Library Function Editor: Properties & Parameters

Name: Collect Quote Fields # Parameter Name Parameter Type

Variable Name: mSDYNCollectQuoteFields

Description: Gathers quote-level fields needed for dynamics integration returns a JSON object with CPQ attribute values
NOTE : Fields must also have entries in the export_mappings table to be

Return Type: Json

Function Editor

Hide Tools | Editor Help

Attributes Function Wizard Debugger Library Function(s)

Main Document Attribute

#	Attribute
1	mSDYNOpportunityId_t
2	mSDYNQuoteId_t
3	mSDYNOpportunityLineIds_t
4	mSDYNIsPrimaryQuote_t
5	mSDYNPrimaryQuoteId_t
6	bs_id

Sub Document Attribute

transactionLine

#	Attribute
---	-----------

System Attribute

#	Attribute
---	-----------

Add Attributes Add Attributes Add Attributes

```
1 result = json();
2
3 // These fields are included in the package
4 jsonput(result,"mSDYNOpportunityId_t", mSDYNOpportunityId_t);
5 jsonput(result,"mSDYNQuoteId_t", mSDYNQuoteId_t);
6 jsonput(result,"mSDYNOpportunityLineIds_t", mSDYNOpportunityLineIds_t);
7 jsonput(result,"mSDYNIsPrimaryQuote_t", mSDYNIsPrimaryQuote_t);
8 jsonput(result,"mSDYNPrimaryQuoteId_t", mSDYNPrimaryQuoteId_t);
9 jsonput(result,"bs_id", bs_id);
10
11 // For all additional mappings, add fields using the same method as shown above
12 // jsonput(result, "<cpq_attribute_name>", <cpq_attribute_name>);
13 return result;
14
15
16
```

Collect Quote Fields Library Function

MODIFY THE COLLECT LINE FIELDS COMMERCE LIBRARY FUNCTION

Add any fields that are mapped in the “ExportMappings” data table to the Collect Line Fields Commerce Library Function. Refer to line 16 for the method with which to add any custom mappings.

The screenshot displays the 'Commerce BML Library Function Editor: Properties & Parameters' window. The function name is 'Collect Line Fields' and its variable name is 'mSDYNCollectLineFields'. The description states: 'Gathers line-level fields needed for dynamics integration. Returns a JSON array of line items with attribute values. NOTE: Fields must also have entries in'. The return type is 'JSONArray'.

The 'Function Editor' section shows three tabs: 'Main Document Attribute', 'Sub Document Attribute', and 'System Attribute'. The 'Sub Document Attribute' tab is active, showing a table of attributes for 'transactionLine':

#	Attribute
1	_document_number
2	mSDYNOpportunityLineId_l
3	mSDYNOpportunityId_l
4	_price_quantity
5	part number

The code editor at the bottom shows the following JavaScript code:

```
1 result = jsonarray([]);
2
3 // Loop over each line item, and package it into a json object
4 for line in transactionLine {
5   thisline = json();
6   // These fields are included in the package
7   jsonput(thisline, "_document_number", line._document_number);
8   jsonput(thisline, "mSDYNOpportunityLineId_l", line.mSDYNOpportunityLineId_l);
9   jsonput(thisline, "mSDYNOpportunityId_l", line.mSDYNOpportunityId_l);
10  jsonput(thisline, "_price_quantity", line._price_quantity);
11  jsonput(thisline, "_part_number", line._part_number);
12  jsonput(thisline, "_part_desc", line._part_desc);
13  jsonput(thisline, "_sequence_number", line._sequence_number);
14
15  // For all additional mappings, add fields using the same method as shown above
16  // jsonput(thisline, "<cpq_attribute_name>", line.<cpq_attribute_name>);
17
18  // Append the line item js object
19  jsonarrayappend(result, thisline);
20 }
21 return result;
```

Collect Line Fields Library Function

ADD BML INTEGRATION TO NEW TRANSACTIONS

All BML integrations appear on the **Integration** tab of the **Admin Action** page. Administrators must add the Import Quote Data integration to new Transactions.

Complete the following steps:

1. Open the Admin Home page.
2. Under **Commerce and Documents**, select **Process Definition**.
The **Processes** page opens.

Select	Name	Navigation	Quick Links	Description	Last Deployed
Quotes		Documents	List Open	Main QA process. Contains basic functionality, integration setups, and various feature testbeds.	09/29/2017 9:20 AM
Formulae		Documents	List Open	Secondary process dedicated to testing Formula Management.	09/27/2017 12:51 PM
Test		Documents	List Open	Clone to create your own test process	09/27/2017 12:52 PM
Oracle Quote to Order		Documents	List Open	The reference commerce process.	01/30/2018 7:15 AM
Integration Test		Documents	List Open	Clone to create your own test process	12/05/2017 7:23 AM
zTest		Documents	List Open	Clone to create your own test process	02/12/2018 8:10 AM
prcsctccop_bmlClone_1		Documents	List Open	The reference commerce process.	02/12/2018 12:54 PM

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Processes Page

3. Click the name of the target process.
The **Process Administration** page opens.
4. Select the **Integration** tab.
5. Move the Import Quote Data integration from the **Available Imports** column to the **Selected Imports** column.

Process Administration

General **Integration**

Initial Import
When coming from a partner site, some information may be imported to the transaction at the time of creation.

Available Imports: Upsert Primary Quote Info (BML), Export Quote Data (BML), Export Line Data (BML)

Selected Imports: Import Quote Data (BML)

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Import Quote Data Integration in Selected Imports List

ADD BML INTEGRATION TO OPEN TRANSACTION PROCESS ACTION

All BML integrations appear on the **Integration** tab of the **Admin Action** page. Administrators must add the Import Quote Data integration to the Open Transaction process action.

Complete the following steps:

1. Open the Admin Home page.
2. Under **Commerce and Documents**, select **Process Definition**.
The **Processes** page opens.
3. Identify the target process.
4. From the associated **Navigation** menu, select **Process Actions**.
5. Click **List**.
The **Process Action List** page opens.

Action Name	Navigation	Type	Description	Date Last Modified
Copy	Sequence List	Copy	Used to copy a process transaction	02/12/2018 7:54 AM
Email		Email	Sends a document via email/fax	02/12/2018 7:54 AM
Export File Attachments		Export File Attachments	Exports file attachments via Web Services	02/12/2018 7:54 AM
Forward		Forward	Used to forwards documents to other users	02/12/2018 7:54 AM
Import File Attachments		Import File Attachments	Imports file attachments via Web Services	02/12/2018 7:54 AM
Move		Move	Used to move documents between folders	02/12/2018 7:54 AM
New Transaction	Access Rights	New Transaction	Used to create a new transaction with no line items	02/12/2018 7:54 AM
Open Transaction		Open Document		02/12/2018 12:03 PM
Print		Print	Generates documents in printer friendly format	02/12/2018 7:54 AM
Unlock	Access Rights	Unlock	Used to unlock all selected Transactions in a Commerce process that are locked for editing.	02/12/2018 7:54 AM

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Process Action List Page

6. Click the **Open Transaction** process action.
The **Admin Action** page opens.
7. Select the **Integration** tab.
8. Move the Import Quote Data action from the **Integration List** to the **Selected Integration** list.

Admin Action		(_open_transaction)		Process : oraclecpqo_bmClone_1	
General Modify Integration Process Views					
Integration List: Upsert Primary Quote Info (BML) Export Quote Data (BML) Export Line Data (BML)		Selected Integration: Apply/Modify Functions Import Quote Data (BML)			
>		<			
<		>			
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Import Quote Data Integration in Selected Integration List

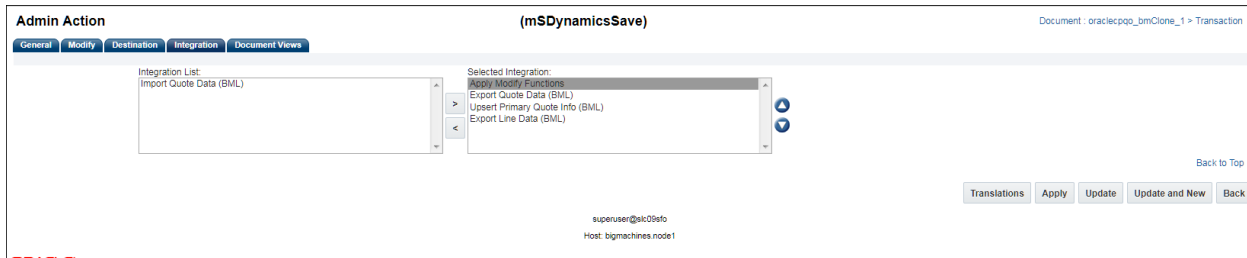
ADD BML INTEGRATIONS TO PROCESS ACTIONS

All BML integrations appear on the **Integration** tab of the **Admin Action** page. Associate each of the previously created integrations with an action (e.g. New, Import, Save). Administrators can either use existing actions or create new ones. Upon activating an integration action, the Commerce “Export Data For Quote” BML Library Function calls the “ExportMappings” data table to gather all mapped entity fields and their corresponding Document and Sub Document attributes to export.

IMPORTANT: For additional information about the data tables, BML Library Function, and attributes referenced in this section, refer to Appendix A: Migration Package Components.

Complete the following steps:

1. Open the Admin Home page.
2. Under **Commerce and Documents**, select **Process Definition**.
The **Processes** page opens with **Documents** displayed by default in the **Navigation** menu for each process listed.
3. Identify the target process to which the BML integration applies.
4. Next to the associated **Navigation** menu, click **List**.
The **Document List** page opens.
5. Identify the document (i.e. Transaction) or sub document (i.e. Transaction line) containing the process action to apply to the BML integration.
6. From the associated **Navigation** menu, select **Actions**.
7. Click **List**.
The **Action List** page opens.
8. Select the name of the process action used to invoke the BML integration.
The **Admin Action** page opens.
9. Select the **Integration** tab.
The **Integration** tab determines the order in which data is sent from Dynamics 365 to CPQ Cloud. All BML integrations and other CRM integrations display in the Integration tab.
10. From the **Integration List**, select the BML integrations to apply to the action. Administrators can select and deselect any of the listed integrations.
11. Move the Export Quote Data, Upsert Primary Quote Info, and Export Line Data BML integrations to the **Selected Integration** list.
12. Order the BML integrations in the **Selected Integration** list in the following order: Export Quote Data, Upsert Primary Quote Info, and Export Line Data.



Order the BML Integrations in the Selected Integration List

13. Click **Apply**.

IMPORTANT:

- Any action that needs to synchronize data with Dynamics 365 must have the proper integration action created.
- Administrators cannot remove **Apply Modify Functions** from the **Selected Integration** list. They must order all BML integrations around **Apply Modify Functions**.
- Multiple actions can reference the same BML integration.
- When a BML integration references a process action, administrators cannot delete it.
- Non-BML integrations are not allowed when a BML integration is applied to a process action. Similarly, BML integrations are not allowed when a non-BML integration is applied to a process action. An error message will display stating that BML type integrations cannot be mixed with other integration types.

CONFIGURE A BML INTEGRATION TO IMPORT DATA WITH PROCESS ACTIONS

All BML integrations appear on the **Integration** tab of the **Process Administration** page. As in prior releases, the **Integration** tab contains a list of integrations available to import into a Transaction at the time of creation. With a Dynamics 365 integration, administrators can configure a BML integration to import data with process actions.

Complete the following steps:

1. Open the Admin Home page.
2. Under **Commerce and Documents**, select **Process Definition**.
The **Processes** page opens.
3. Select the name of a Commerce process.
The **Process Administration** page opens.
4. Select the **Integration** tab.
All CRM integrations, including BML integrations, display in the Integration tab.

Process Administration

General **Integration**

Initial Import

When coming from a partner site, some information may be imported to the transaction at the time of creation.

Available Imports:

- SFDC Opportunity - Import (Import)
- SFDC User - Import (Import)
- SFDC Quote - Import (Import)
- OOD Opportunity - Import (Import)
- OOD User - Import (Import)
- OOD Quotes - Get IDs (Import)
- second late bml (BML)

Selected Imports:

- late added bml (BML)

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BML Integrations in Available Imports List

5. From the **Available Imports** list, select the BML integrations to apply to the process.
Administrators can select and deselect any of the listed integrations.
6. Move the selected integrations to the list of **Selected Imports**.
7. Order the BML integrations in the **Selected Imports** list in any sequence.
8. Click **Apply**.

MICROSOFT DYNAMICS 365 INTEGRATION ENHANCEMENTS

As part of continuing improvements to the Microsoft Dynamics 365 integration, the following enhancements are available in CPQ Cloud Release 18D:

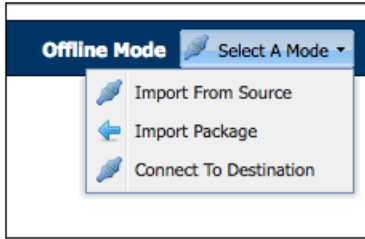
- Auto-fill Account information on new Transactions using BML type Account Integrations.
- Select alternate addresses from the Contact list and populate Bill To and Ship To address sets on Transactions using BML type Account Integrations.
- Synchronize Quote Lines to Opportunity Products as Price List Items.
- Automatically delete Opportunity Products when a synced Quote is deleted from the Opportunity.
- Utilize improved navigation and framing behavior when opening Oracle Quotes and returning to Dynamics 365 from CPQ Cloud.

UPGRADE THE MICROSOFT DYNAMICS INTEGRATION PACKAGE

Upgrading the Microsoft Dynamics Integration Package is a prerequisite for setting up the above referenced Microsoft Dynamics 365 integration enhancements.

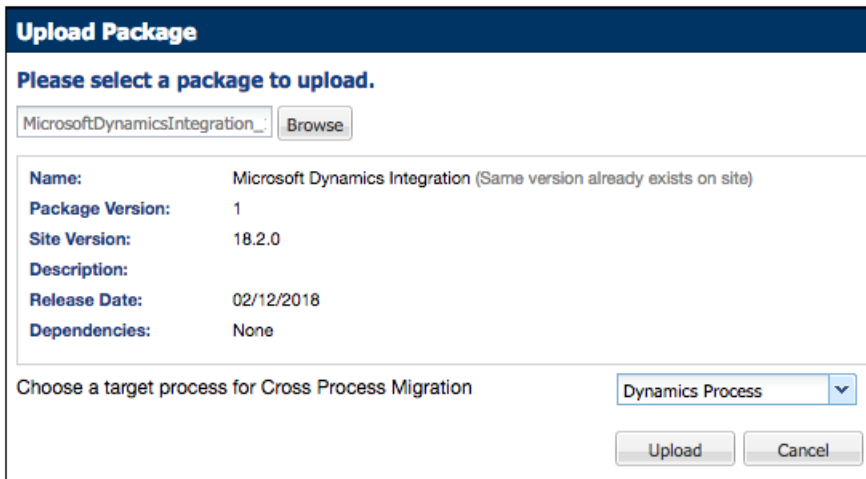
To upgrade the Microsoft Dynamics Integration Package, perform the below steps.

1. Log in to My Oracle Support.
2. Search for the Microsoft Dynamics Integration Package.
The Doc ID is 2364513.1
3. Download the package to your computer.
4. Open the Admin Home page.
5. Under **Utilities**, select **Migration**.
The **Migration Center** opens.
6. Select **Import Package** from the **Offline Mode** menu.
The **Upload Package** dialog opens.



Offline Mode Menu

7. Click **Browse**.
8. Select the package to upload and the process to upgrade.



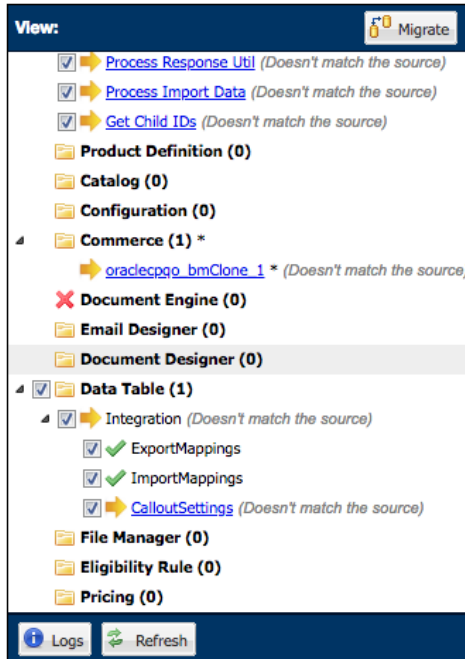
Upload Package Dialog

9. Click **Upload**.
The **Overwrite Package** dialog opens.



Overwrite Package Dialog

10. Click **Yes** to import the new package and overwrite the existing package.
11. From the **View** menu on the left, deselect the items you have made changes to and do not wish to upgrade.



View Menu

IMPORTANT:

- Upgrading truncates any changes administrators have made to any of the listed items. Deselecting items will exclude them from the upgrade and retain any existing customizations, but the new features will not be added to your site.
- If administrators need to override the upgrade on a Commerce function, expand Commerce and click the Commerce process.

12. Click **Migrate**.

13. Click **Logs** when the migration completes to verify a successful migration.

Select	Content	Date	Status	Status Message
	Data Table	06/19/2018 8:20 AM	Successful	---
	Commerce	06/19/2018 8:21 AM	Successful	---
	Util Library	06/19/2018 8:22 AM	Successful	---
	Package	06/19/2018 8:22 AM	Successful	---

Successful Status to Indicate Successful Migration

AUTO-FILL ACCOUNT INFORMATION WHEN CREATING NEW TRANSACTIONS USING BML TYPE ACCOUNT INTEGRATIONS

Administrators can create a BML type Account integration that automatically imports Microsoft Dynamics 365 account information into CPQ Cloud when customers create a new Oracle Quote from Dynamics 365.

CREATE BML TYPE ACCOUNT INTEGRATION

Create a BML type Account integration from the **Edit Integration** page by selecting the system variable and library functions supporting the integration and defining the BML.

To create a BML type Account integration, perform the following steps:

1. Open the Admin Home page.
2. Select **Accounts** under **Integration Platform**.
The **Accounts** page opens.
3. Click **Integration**.
The **Integration for CRM** page opens.
4. Click **Add**.
The **Edit Integration** page opens.
5. Populate the following fields:
 - **Name:** A descriptive name for the integration.
 - **Variable Name:** A unique name for the integration.
 - **Description:** A simple description of the integration.
6. Click **Add**.
The **Edit Integration** page refreshes and includes a **Define** button.

Edit Integration

Integration Information

*Name:	<input type="text" value="Account BML"/>
*Variable Name:	accountBML
Description:	<input type="text"/>
*Integration Type:	BML
Define Function	<input type="button" value="Define"/>
Endpoint URL	Dynamics365 https://login.microsoftonline.com

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Edit Integration Page with Define Button

7. Click **Define**.
The **Select Attributes** page opens.
8. From the **System Variable Name** tab, select “_system_account_id_field”.
9. From the **Library Functions** tab, select “mSDYNImportAsJson_util” and “getMSDYNCalloutSettingsDict_util”.
10. Click **Next**.
BML Editor opens.
11. Locate the BML for the integration on [My Oracle Support](#).
Search for Doc ID 2364513.1.
12. Copy the BML and paste it into BML Editor.
13. Click **Save and Close**.

ADD BML TYPE ACCOUNT INTEGRATION TO THE REFRESH ADDRESS PROCESS ACTION

After creating the BML type Account integration, add the integration to the **Refresh Address** action (i.e. “_auto_fill_action”) and map the attributes returned by the integration to Transaction attributes. When users create a new Oracle Quote in Dynamics 365, the **Refresh Address** action is invoked and the mapped values are added to the Oracle Quote.

To add the BML type Account integration to the **Refresh Address** process action, perform the following steps:

1. Open the Admin Home page.
2. Select **Process Definition** under **Commerce and Documents**.
The **Processes** page opens.
3. Identify the target process to which the BML type Account integration applies.
4. From the associated **Navigation** menu, select **Documents**.
5. Click **List**.
The **Document List** page opens.
6. Select **Actions** from the **Navigation** menu at the Transaction level.
7. Click **List**.
The **Action List** page opens.
8. Select the **Refresh Address** action.
The **Admin Action** page opens.
9. Select the **Modify** tab.
10. Set all the attributes you want to auto-populate in the Oracle Quote to **Leave Value Unchanged**.
11. Select the **Mappings** tab.
All of the attributes available in the CPQ Cloud Account object display.
12. Map the attributes to Transaction attributes.
The **Refresh Address** action retrieves the mapped account values and saves them to the Oracle Quote.

Admin Action (_auto_fill_action) Document : Oracle Quote to Order > Transaction

General | **Modify** | Mappings | Integration | Document Views

Account Fields:

- first_name
- last_name
- customer_id
- company_name
- customer_rep
- phone
- email
- fax
- field1
- field2
- field3
- field4
- field5
- field6

Transaction Fields:

- Created By (createdBy_t)
- Created Date (createdDate_t)
- Currency (currency_t)
- Has Recurring Pricing (hasRecurringPricing_t)
- Last Priced (lastPricedDate_t)
- Last Updated By (lastUpdatedBy_t)
- Last Updated (lastUpdatedDate_t)
- Opportunity ID (opportunityID_t)
- Opportunity (opportunityName_t)
- Order Date (orderDate_t)
- Owner (owner_t)
- Payment Terms (paymentTerms_t)
- Price Expiration Date (priceExpirationDate_t)
- Price Within Policy (priceWithinPolicy_t)

Map

Account to Transaction Mapping

- billing_first_name<->Invoice To First Name (_invoiceTo_t_first_name)
- billing_last_name<->Invoice To Last Name (_invoiceTo_t_last_name)
- billing_company<->Invoice To Company Name (_invoiceTo_t_company_name)
- billing_company_2<->Invoice To Company Name 2 (_invoiceTo_t_company_name_2)
- billing_address<->Invoice To Address (_invoiceTo_t_address)
- billing_address_2<->Invoice To Address 2 (_invoiceTo_t_address_2)
- billing_city<->Invoice To City (_invoiceTo_t_city)
- billing_state<->Invoice To State (_invoiceTo_t_state)
- billing_zip<->Invoice To Zip (_invoiceTo_t_zip)
- billing_country<->Invoice To Country (_invoiceTo_t_country)
- billing_phone<->Invoice To Phone (_invoiceTo_t_phone)
- billing_fax<->Invoice To Fax (_invoiceTo_t_fax)
- billing_email<->Invoice To Email (_invoiceTo_t_email)
- shipping_first_name<->Customer First Name (_customer_t_first_name)

Remove

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Sample Mappings

IMPORTANT: When using the integrated BML, administrators can change field mappings by editing the MSDYNAccountMappings table. Each row is a field mapping. The **Integration** column is set to “account” for the BML type Account integration. Enter the Dynamics 365 field name in the **Source** column. Enter the CPQ Cloud account field name in the **Destination** column. This maps data from the Microsoft Account entity to the CPQ Cloud Account object.

13. Select the **Integration** tab.
14. From the **CRM Mapping** menu, select the name of your BML type Account integration.
15. Click **Apply**.

Admin Action (_auto_fill_action) Document : QA demo > Transaction

General | **Modify** | Mappings | **Integration** | Document Views

CRM Mapping

Official Account BML ▼

Integration List:

- SFDC Opportunity - Import (Import)
- SFDC User - Import (Import)
- SFDC Quote - Upsert (Export)
- SFDC Products - Upsert 200 (Export)
- SFDC Products - Upsert 400 (Export)
- SFDC Products - Upsert 600 (Export)
- SFDC Products - Upsert 800 (Export)

Selected Integration:

Apply Modify Functions

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Translations Apply Update Update and New Back

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CRM Mapping Menu

SELECT ALTERNATE ADDRESSES FROM THE CONTACT LIST AND POPULATE BILL TO AND SHIP TO ADDRESS SETS ON TRANSACTIONS

Administrators can create a BML type Account integration that imports alternate address information from the Contact list in Microsoft Dynamics 365 into the Oracle Quote Bill To and Ship To address sets.

Create BML Type Account Integration

Create a BML type Account integration from the **Edit Integration** page by selecting the system variable and library functions supporting the integration and defining the BML.

To create a BML type Account integration, perform the following steps:

1. Open the Admin Home page.
2. Select **Accounts** under **Integration Platform**.
The **Accounts** page opens.
3. Click **Integration**.
The **Integration for CRM** page opens.
4. Click **Add**.
The **Edit Integration** page opens.
5. Populate the following fields:
 - **Name:** A descriptive name for the integration.
 - **Variable Name:** A unique name for the integration.
 - **Description:** A simple description of the integration.
6. Click **Add**.
The **Edit Integration** page refreshes and includes a **Define** button.

The screenshot shows the 'Edit Integration' page with the following fields and values:

Integration Information	
*Name:	Address BML
*Variable Name:	addressBML
Description:	
*Integration Type:	BML
Endpoint URL:	Dynamics365 https://login.microsoftonline.com

Buttons: [Back to Top](#), **Add**, **Cancel**

ORACLE

Edit Integration Page with Define Button

7. Click **Define**.
The **Select Attributes** page opens.
8. From the **System Variable Name** tab, select “_system_account_id_field”.
9. From the **Library Functions** tab, select “mSDYNImportAsJson_util” and “getMSDYNCalloutSettingsDict_util”.
10. Click **Next**.
BML Editor opens.
11. Locate the BML for the integration on [My Oracle Support](#).
Search for Doc ID 2364513.1.
12. Copy the BML and paste it into BML Editor.
13. Click **Save and Close**.

ADD BML TYPE ACCOUNT INTEGRATION TO THE SELECT ALTERNATE ADDRESS PROCESS ACTION

After creating the BML type account integration, add the integration to the **Select Alternate Address** action (i.e. “_select_alternate_address_action”) and map the attributes returned by the integration to Transaction attributes. When users create or edit an Oracle Quote in Dynamics 365 and select an alternate address from the Contact list, the Bill To and Ship To address sets on the Oracle Quote are populated with the mapped attribute values.

To add the BML type Account Integration to the **Select Alternate Address** action, perform the following steps:

1. Open the Admin Home page.
2. Select **Process Definition** under **Commerce and Documents**.
The **Processes** page opens.
3. Identify the target process to which the BML type Account integration applies.
4. From the associated **Navigation** menu, select **Documents**.
5. Click **List**.
The **Document List** page opens.
6. Select **Actions** from the **Navigation** menu located at the Transaction level.
7. Click **List**.
The **Action List** page opens.

8. Select the **Select An Alternate Address** action (i.e. `_select_alternate_address_action`).
The **Admin Action** page opens.
9. Select the **Modify** tab.
10. Set all the attributes to auto-populate in the Oracle Quote to **Save From Form**.
11. Select the **Mappings** tab.
All of the attributes available in the CPQ Cloud Address object display.
12. Map the Account Address attributes you want to display in the Oracle Quote to Transaction attributes.

Admin Action
(`_select_alternate_address_action`)
Document : Oracle Quote to Order > Transaction

General
Modify
Mappings
Integration
Document Views

Account Address Fields:

- shipping_address
- shipping_address_2
- shipping_city
- shipping_state
- shipping_zip
- shipping_country
- shipping_phone
- shipping_fax
- shipping_email
- separate_ship_addr
- date_added
- date_modified
- billing_id
- shipping_id

Transaction Fields:

- Created By (`createdBy_t`)
- Created Date (`createdDate_t`)
- Currency (`currency_t`)
- Has Recurring Pricing (`hasRecurringPricing_t`)
- Last Priced (`lastPricedDate_t`)
- Last Updated By (`lastUpdatedBy_t`)
- Last Updated (`lastUpdatedDate_t`)
- Opportunity ID (`opportunityID_t`)
- Opportunity (`opportunityName_t`)
- Order Date (`orderDate_t`)
- Owner (`owner_t`)
- Payment Terms (`paymentTerms_t`)
- Price Expiration Date (`priceExpirationDate_t`)
- Price Within Policy (`priceWithinPolicy_t`)

Account Address to Transaction Mapping

- billing_first_name<->Invoice To First Name (`_invoiceTo_t_first_name`)
- billing_last_name<->Invoice To Last Name (`_invoiceTo_t_last_name`)
- billing_company<->Invoice To Company Name (`_invoiceTo_t_company_name`)
- billing_company_2<->Invoice To Company Name 2 (`_invoiceTo_t_company_name_2`)
- billing_address<->Invoice To Address (`_invoiceTo_t_address`)
- billing_address_2<->Invoice To Address 2 (`_invoiceTo_t_address_2`)
- billing_email<->Invoice To Email (`_invoiceTo_t_email`)
- shipping_first_name<->Customer First Name (`_customer_t_first_name`)

Sample Mappings

IMPORTANT: When using the integrated BML, administrators can change field mappings by editing the `MSDYNAccountMappings` table. Each row is a field mapping. These mappings map data from the Microsoft Account Contact entity to the CPQ Cloud Address object. The **Integration** column is set to “address” for the integration. Enter the Dynamics 365 field name in the **Source** column. Enter the CPQ Cloud account field name in the **Destination** column.

13. Select the **Integration** tab.
14. From the **CRM Mapping** menu, select the name of your BML type Account integration.

15. Click **Apply**.

Admin Action (**_auto_fill_action**) Document : QA demo > Transaction

General **Modify** **Mappings** **Integration** **Document Views**

CRM Mapping
Official Address BML ▾

Integration List:

- SFDC Opportunity - Import (Import)
- SFDC User - Import (Import)
- SFDC Quote - Upsert (Export)
- SFDC Products - Upsert 200 (Export)
- SFDC Products - Upsert 400 (Export)
- SFDC Products - Upsert 600 (Export)
- SFDC Products - Upsert 800 (Export)

Selected Integration:

Apply Modify Functions

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Translations **Apply** **Update** **Update and New** **Back**

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CRM Mapping Menu

SYNCHRONIZE QUOTE LINES TO OPPORTUNITY PRODUCTS AS PRICE LIST ITEMS

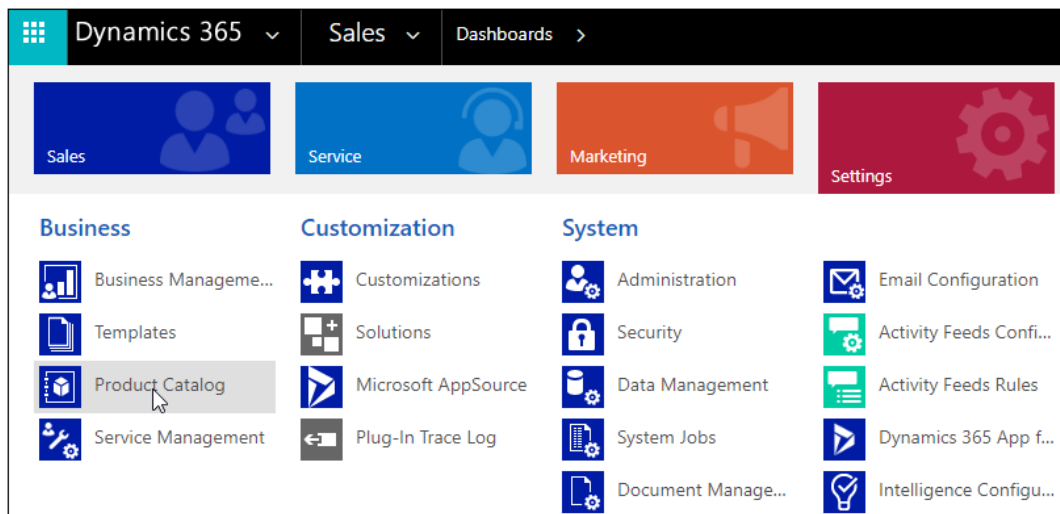
When users click the **Syncing** checkbox on a Quote marked as the "primary" or "active" Quote on the Opportunity, the line items on the primary Quote are synced to the Opportunity as Opportunity products. Prior to CPQ Cloud Release 18D, these products were marked as "Write-in Products". In Release 18D, these products can be added as Price List items and the correct Price List is assigned to the Opportunity. Administrators cannot manually change the Opportunity Price List after an Oracle Quote is created on the Opportunity.

IMPORTANT: Before line items can be synced as Price List items, administrators must complete the procedures in this section.

Export Price Lists from Dynamics 365

To export Price Lists from Dynamics 365, perform the following steps:

1. Log in to Dynamics 365.
2. Open the **Sales** menu from the top navigation bar.
3. Click **Settings**.
4. Click the **Product Catalog** link.



Product Catalog Link

5. Click the **Price Lists** link.

Dynamics 365 Settings Product Catalog

Families & Products
A product is an item in the product catalog that you want to sell to your customers. In this section, you manage products, set up product family hierarchies, create product bundles, and manage properties of product records. You can publish, revise, or retire product records, and also reclassify them to move them to other areas of the product catalog.

Discount Lists
A discount list contains the specific discounts that can be applied to a product, based on volume purchased. In this section, you create, manage, and delete discount lists in the product catalog.

Price Lists
A price list specifies what prices can be charged for each unit in the unit group of a product. In this section, you create, manage, and delete price list line items and price lists in the product catalog. You associate and disassociate products with price lists. You also specify various pricing options in the price list line items, such as the quantity selling option, the pricing method, and the rounding options.

Unit Groups
A unit group contains the base unit a product is available in, such as a liter, and then lists all the different increments that this base unit is packaged for sale. For example, if the base unit is a two-liter bottle, then that product could be sold individually as a two-liter bottle or in a case containing 6 two-liter bottles. In this section, you create, manage, and delete units and unit groups in the product catalog.

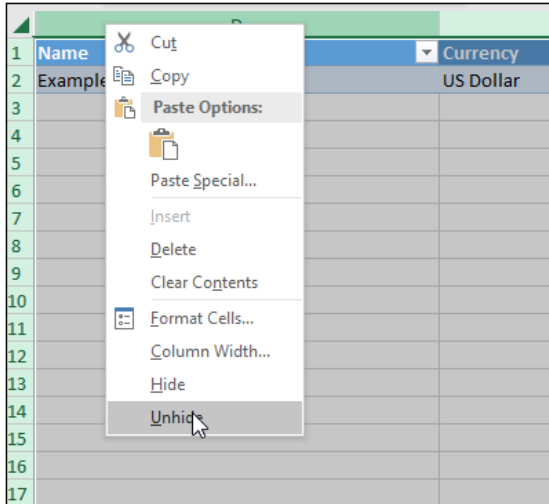
Price Lists Link

6. From the **Active Price Lists** page, click **Export to Excel**.
7. Open the downloaded Excel file.
8. Unhide column A.
9. Click **Enable Editing**.
10. Select all by clicking the triangle in the upper left corner.

	D	E	
1	Name	Currency	Start Date
2	Example Price List	US Dollar	
3			
4			
5			
6			
7			
8			

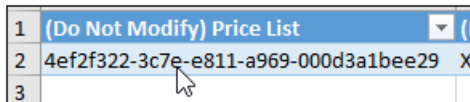
Selected Spreadsheet

11. Right-click the first column header and select **Unhide**.



Unhide First Column

12. Verify that column A contains an ID.



Column A with ID

Map Price List ID to Associated Price Book in CPQ Cloud

Update CPQ Cloud Price Books by mapping the Price List ID to the associated Price Book in CPQ Cloud.

IMPORTANT: The default 18D Microsoft Dynamics Integration Package assumes there are no Price Books. If using a Price Book, administrators must perform the following steps:

1. Edit the **msDYNUpsertPrimaryFlag.bml** commerce library in your process.
2. Add your process' `_partner_price_book_id` as quote level input.
3. Find the `pricebook = ""`; line in the commerce library.
4. Change the double quotes to the variable name.
For example: `pricebook = _transaction_partner_price_book_id`;
5. Save the changes to the library.
6. Deploy Commerce.

To map the Price List ID to the Associated Price Book in CPQ Cloud, perform the following steps:

1. Open the Admin Home page.
2. Under **Products**, select **Parts**.
The **Part Administration** page opens.
3. Click **List** in the **Price Book** area of the page.
The **Price Book Administration List** page opens.
4. Select the name of the Price Book to update.
The **Price Book Administration** page opens.
5. Paste the paired Price List ID into the **Partner Price Book Id** field.
6. Click **Update**.
7. Repeat the above steps for each paired Price Book.

Specify Unit of Measure

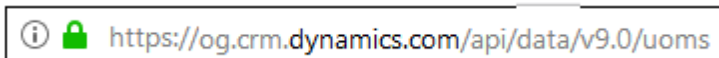
To create Opportunity line items linked to Dynamics products, administrators must specify a unit of measure ID for the Opportunity items. The “commerce.mSDYNEExportDataForLines()” library function hard codes the unit of measure ID under the variable unit of measure. Administrators may need to update the “uomid” in the “commerce.mSDYNEExportDataForLines()” library function to match the unit of measure ID in their organization.

```
48 // UOM ID - may be different for each org, so update as necessary
49 uomid = "2acda961-f74c-4ec2-aea5-bce3a863a3ea";
```

To locate the Unit of Measure ID, perform the following steps:

1. Navigate to [organization URI]/api/data/v9.0/uoms

For example:



2. Locate “uomid” on the page.

JSON	Raw Data	Headers
Save	Copy	Collapse All Expand All
▼ @odata.context:		"https://roadhog.crm.dynamics.com/api/data/v9.0/\$metadata#uoms"
▼ value:		
▼ @:		
@odata.etag:		"W/\\"855721\\""
organizationid:		"8f7331d1-444f-4725-977c-571001f34dcf"
_uomscheduleid_value:		"02873750-bcf6-4137-80c0-a758e4dad3aa"
_createdby_value:		"f866e96f-7de8-4bdc-96c1-99dcaff03f65"
isschedulebaseuom:		true
modifiedon:		"2018-11-24T20:53:33Z"
_modifiedby_value:		"f866e96f-7de8-4bdc-96c1-99dcaff03f65"
quantity:		1
createdon:		"2018-11-24T20:53:33Z"
versionnumber:		855721
name:		"Primary Unit"
uomid:		"e6aaa327-10ce-4007-8b7e-4f5cf96137ff"
importsequencenumber:		null
_createdonbehalfby_value:		null
_modifiedonbehalfby_value:		null
timezoneruleversionnumber:		null
overriddencreatedon:		null
_baseuom_value:		null
utcconversiontimezonecode:		null
_createdbyexternalparty_value:		null
_modifiedbyexternalparty_value:		null

Unit of Measure ID

Export Parts from CPQ Cloud

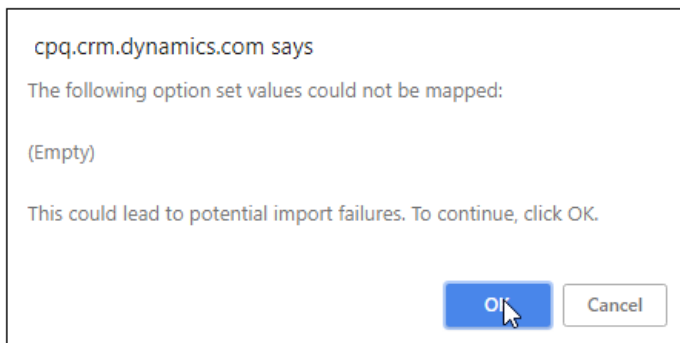
To export parts from CPQ Cloud, perform the following steps.

1. Open the Admin Home page.
2. Navigate to **Utilities > Bulk Data Services > Download**.
The **Download Category List** page opens.
3. Select the **Parts** radio button.
4. Click **Next**.
The **Search Criteria** page opens.
5. Select **CSV** as the **Download Format**.
6. Enter search criteria to filter the resulting export as desired.
7. Click **Download**.
8. When the download completes, click the **Module** link on the **Download Status** page to download the results.

Import CPQ Cloud Parts to Dynamics 365

To import CPQ Cloud parts to Dynamics 365, perform the following steps:


1. Log in to Dynamics 365.
2. Under the **Sales** menu in the top navigation bar, select **Settings**.
3. Select **Data Management**.
The **Data Management** page opens.
4. Select **Imports**.
The **My Imports** page opens.
5. Click **IMPORT DATA**.
The **Upload Data File** dialog opens.
6. Select the file containing the parts you downloaded from CPQ Cloud.
7. Click **Next**.
8. Review the mapping dialog.



Mapping Dialog

9. Click **OK**.
10. Click to allow or disallow duplicates and assign an owner for the import.

Review Settings and Import Data Help

 This action will update existing records, and, if required, create new records.

Review the default settings, make the necessary changes, and submit the data for import.

Allow Duplicates

No
 Yes

Duplicate records will be determined based on the duplicate detection settings in Microsoft Dynamics 365.

Select Owner for Imported Records

This user will own the imported records if the records do not contain owner information or if the records cannot be assigned to the specified owners.

Review Settings and Import Data

11. Click **Submit**.
12. Click **Finish**.

Activate Dynamics 365 Products

The products in the Dynamics 365 site must be active. If the they are inactive, administrators can bulk activate the products. For additional information, refer to the [Microsoft Dynamics 365 documentation](#).

To activate Dynamics 365 products, perform the following steps:

1. Log in to Dynamics 365.
2. Open the **Sales** menu from the top navigation bar.
3. Select **Settings**.
4. Select the **Product Catalog** link.
5. Select **Families & Products**.

Dynamics 365 Settings Product Catalog

Families & Products
 A product is an item in the product catalog that you want to sell to your customers. In this section, you manage products, set up product family hierarchies, create product bundles, and manage properties of product records. You can publish, revise, or retire product records, and also reclassify them to move them to other areas of the product catalog.

Price Lists
 A price list specifies what prices can be charged for each unit in the unit group of a product. In this section, you create, manage, and delete price list line items and price lists in the product catalog. You associate and disassociate products with price lists. You also specify various pricing options in the price list line items, such as the quantity selling option, the pricing method, and the rounding options.

Discount Lists
 A discount list contains the specific discounts that can be applied to a product, based on volume purchased. In this section, you create, manage, and delete discount lists in the product catalog.

Unit Groups
 A unit group contains the base unit a product is available in, such as a liter, and then lists all the different increments that this base unit is packaged for sale. For example, if the base unit is a two-liter bottle, then that product could be sold individually as a two-liter bottle or in a case containing 6 two-liter bottles. In this section, you create, manage, and delete units and unit groups in the product catalog.

Families & Products Link

6. From the **All Products, Families & Bundles** page, select **EXPORT TO EXCEL**.
7. Save the file.
8. Open the downloaded spreadsheet.
9. Set the **Status** column to “Active” for all products you want to activate.
10. Save the spreadsheet.
11. Under the **Sales** menu in the top navigation bar, select **Settings**.
12. Select **Data Management**.
 The **Data Management** page opens.
13. Select **Imports**.
 The **My Imports** page opens.
14. Click **IMPORT DATA**.
15. Follow the import wizard’s steps.
 The products are now activated.

AUTOMATICALLY DELETE OPPORTUNITY PRODUCTS WHEN SYNCED ORACLE QUOTE IS DELETED FROM OPPORTUNITY

In prior releases, deleting a synced Oracle Quote did not delete the associated Opportunity products. When users delete an Oracle Quote that has synced to an Opportunity, all of the associated Opportunity products are automatically deleted in Dynamics 365. The CPQ Cloud Transaction is not affected.

IMPORTANT: To make this enhancement available to users, administrators must [Upgrade the Microsoft Dynamics Integration Package](#). No additional administrator action is required.

SAMPLE USE CASE

1. Create a new CPQ Cloud Quote from Dynamics 365.
2. Add line items to the Quote.
3. Mark the Quote as Primary.
4. Save the Quote.
5. Synchronize the CPQ Cloud Quote to a Dynamics 365 Opportunity.
6. Return to the Opportunity.

The Opportunity displays a list of Oracle Quotes and the associated Product line items.

Oracle Quotes			
Name ↓	Owner	Modified On ↓	Created On
CPQ Demo Quote	Sales User	5/3/2018 4:2...	5/3/2018

Sample Oracle Quotes List

Product line items

Price List: Standard Price List

Revenue: System Calculated

Existing Product ↑	Write-In Product	Price Per Unit	Quantity	Extended Amo...
	GS5004	\$1,000.00	1.00000	\$1,000.00
	CPU-100M-19	\$25.00	1.00000	\$25.00
	MEM-100M-1	\$20.00	1.00000	\$20.00

Sample Product Line Items

7. Delete the synced Oracle Quote from the list of Oracle Quotes.
The associated Product line items are also deleted.

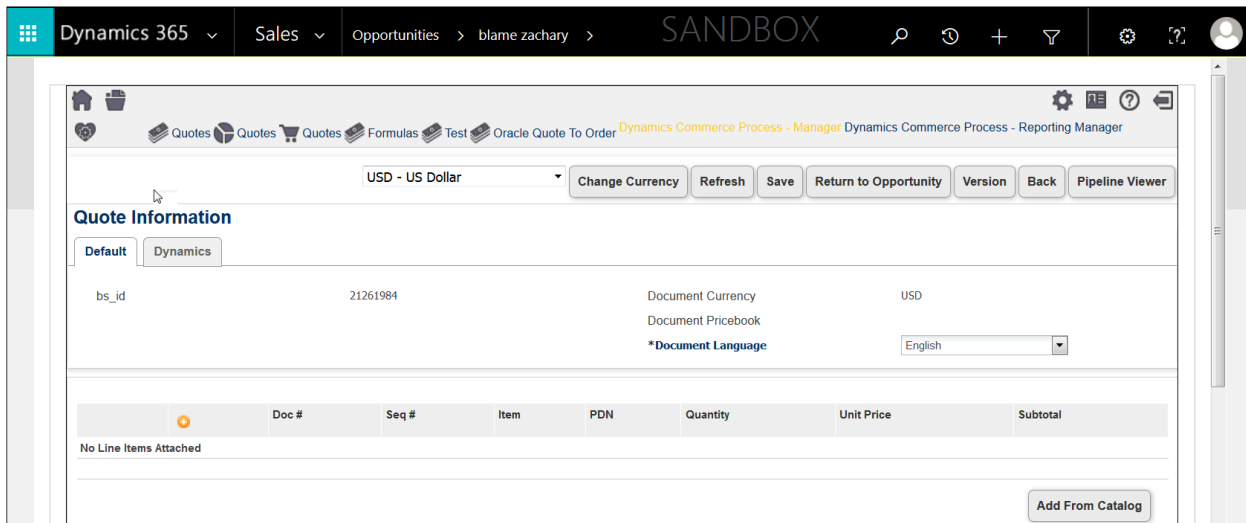
UTILIZE IMPROVED NAVIGATION AND FRAMING BEHAVIOR

The CPQ Cloud - Microsoft Dynamics 365 integration enhancements provide improved navigation and framing behavior when opening Quotes and returning to Dynamics 365 from CPQ Cloud.

IMPORTANT: To make this enhancement available to users, administrators must [Upgrade the Microsoft Dynamics Integration Package](#). No additional administrator action is required.

Consistent Window Behavior

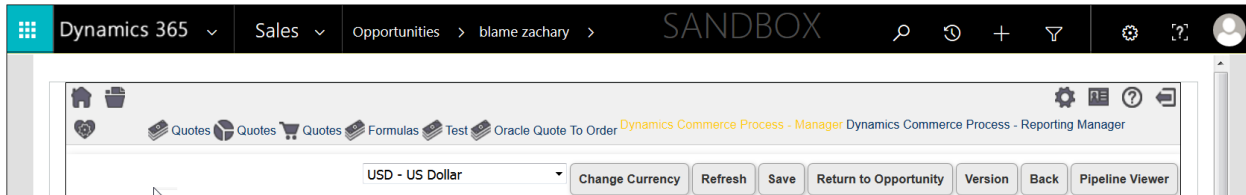
Users create new Oracle Quotes and edit existing Oracle Quotes from the same window. When a user created a new Oracle Quote in prior releases, they did so with a pop-up that opened a new window. When they later edited that Quote, it opened the Quote in the active window. Oracle has removed this inconsistency in 18D, so the new Quote and the edit Quote experience are the same. The user will always open a Quote in the active window.



Consistent Window Behavior

Improved Button Bar

When users created or edited Oracle Quotes in prior releases, the Dynamics button bar displayed buttons native to Dynamics 365 that were not applicable to the CPQ Cloud – Dynamics 365 integration. With the CPQ Cloud 18D enhancements, the Dynamics button bar no longer displays when users create or edit Oracle Quotes.

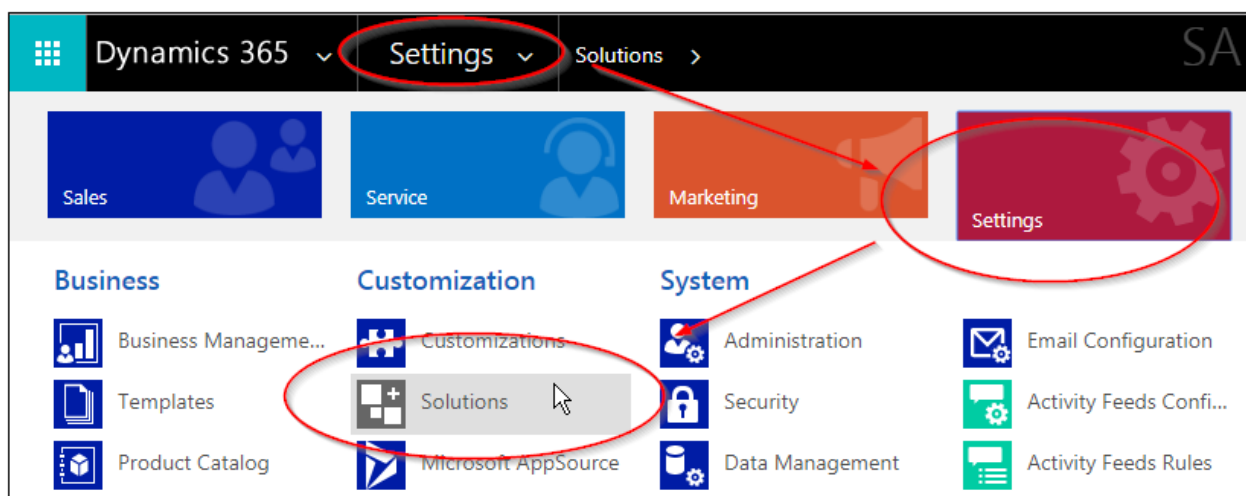


Improved Button Bar

Hide Additional Buttons

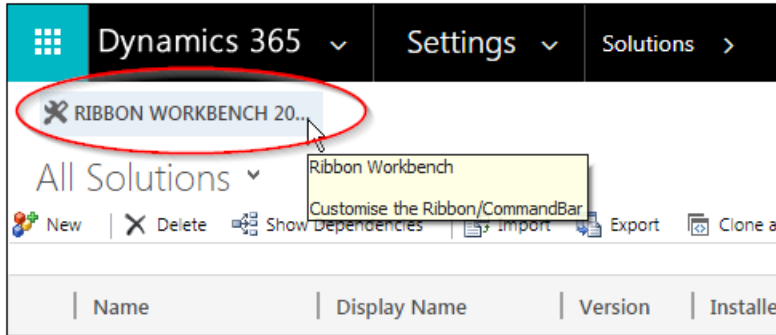
As administrators customize their Dynamics 365 instance, they may choose to hide additional buttons using the Ribbon Workbench.

1. Download the latest version of the [Ribbon Workbench](#).
2. Log in to Dynamics 365 as an administrator.
3. Open the **Settings** menu from the top navigation bar.
4. Select **Settings**.
5. Select **Solutions**.
6. Navigate to **Settings > Settings > Solutions**.



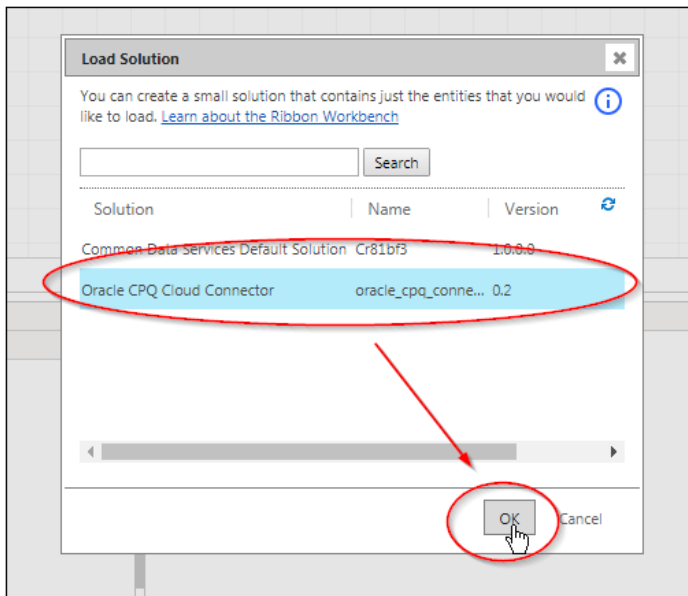
Solutions Link

7. Click **Import**.
8. Select the file downloaded in step 1.
9. Install Ribbon Workbench.
10. Refresh the page after completing the install.
The **Ribbon Workbench 2016** button at the top of the page indicates a successful install.



Ribbon Workbench 2016 Button

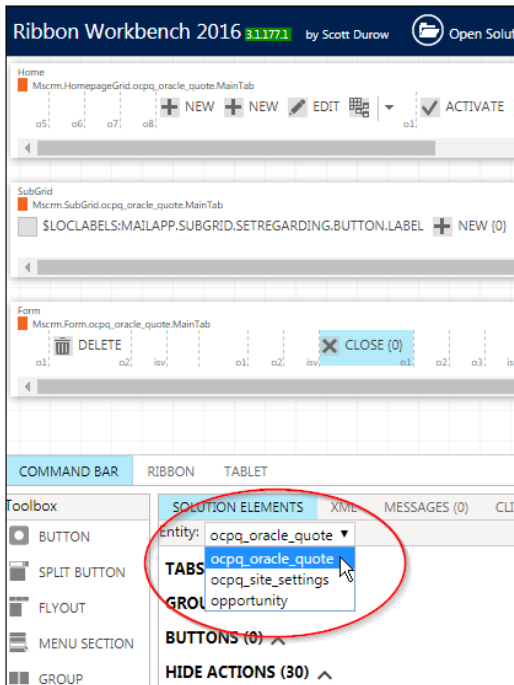
11. Click **Ribbon Workbench 2016**.
12. Select **Oracle CPQ Cloud Connector**.



Load Oracle CPQ Cloud Connector

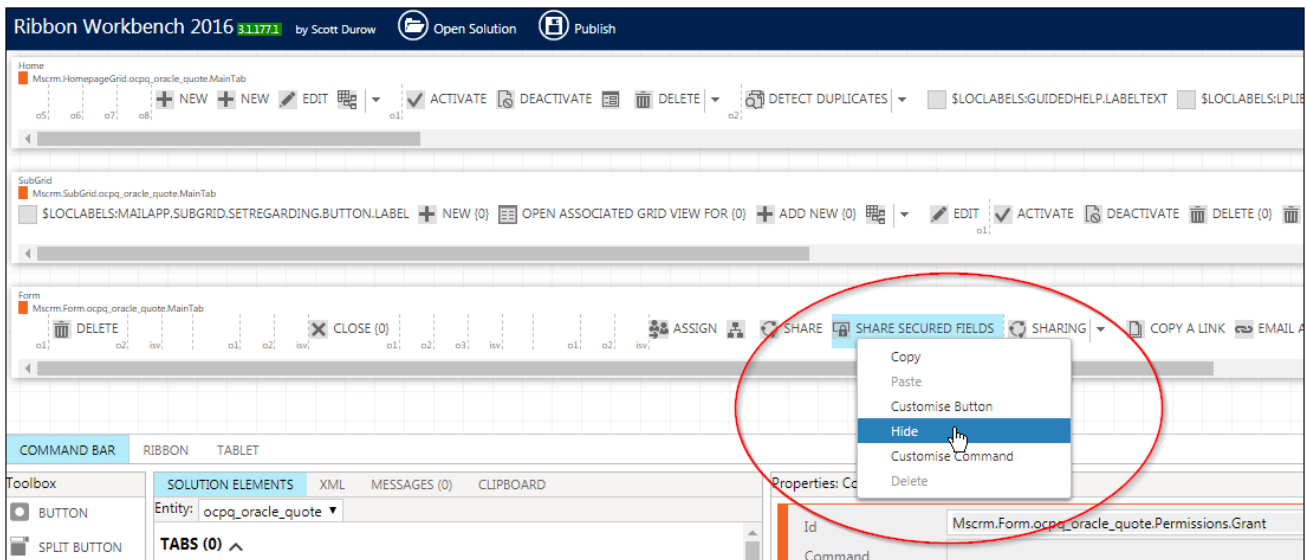
13. Click **OK**.

14. Select the entity to manipulate by navigating to **Command Bar > Solution Elements > Entity**.



Solution Elements

15. Right-click the button to hide and click **Hide**.



Hide Button

16. Click **Publish** after hiding all the buttons you want to hide.

OPPORTUNITY AUTO-REFRESH ON SAVE

When users create a new Oracle Quote in Dynamics 365, click **Save**, and return to the Opportunity, the Opportunity auto-refreshes and displays the new Oracle Quote under the **Oracle Quotes** heading. Prior to CPQ Cloud Release 18D, users had to manually refresh the Opportunity page to see the new Oracle Quote under the **Oracle Quotes** heading.

APPENDIX A: MIGRATION PACKAGE COMPONENTS

The components included in the Microsoft Dynamics Integration package are identified in the below tables.

Commerce Main Document Attributes		
Attribute Name	Variable Name	Description
Opportunity ID	mSDYNOpportunityId_t	ID of MS Dynamics Opportunity entity record. When a quote is created in Dynamics 365, the CPQ Cloud Transaction receives the Dynamics 365 "Opportunity ID".
Quote ID	mSDYNQuoteId_t	ID of MS Dynamics Oracle Quote entity record
Quote Is Primary	mSDYNIsPrimaryQuote_t	Boolean to indicate the Quote is the primary Quote on the Opportunity entity record. This tells the system to create Opportunity Line Item records when the systems are synchronized.
Primary Quote ID	mSDYNPrimaryQuoteId_t	ID of Microsoft Dynamics Oracle Quote entity record that is marked as primary on the Opportunity entity record.
Opportunity Line IDs	mSDYNOpportunityLineIds_t	List of all line item IDs that exist on the Opportunity in Microsoft Dynamics.
Commerce Sub Document Attributes		
Attribute Name	Variable Name	Description
Opportunity ID	mSDYNOpportunityId_l	ID of MS Dynamics Opportunity entity record.
Opportunity Line ID	mSDYNOpportunityLineId_l	ID of Microsoft Dynamics Opportunity Line entity record.

Commerce Library Functions		
Attribute Name	Variable Name	Description
Collect Quote Fields	mSDYNCollectQuoteFields	Function for administrator to update with main document attributes mapped in the Import and Export mapping tables
Collect Line Fields	mSDYNCollectLineFields	Function for administrator to update with sub document attributes mapped in the Import and Export mapping tables
Import Data For Quote	mSDYNImportDataForQuote	Imports quote data from Dynamics
Export Data For Quote	mSDYNExportDataForQuote	Exports quote main doc data to Dynamics. Supports writing to CPQ Quote and Opportunity entities.
Upsert Primary Flag	mSDYNUpsertPrimaryFlag	Sets the primary quote id in Dynamics
Export Data For Lines	mSDYNExportDataForLines	Exports quote main doc data to Dynamics
BML Library Functions		
Attribute Name	Variable Name	Description
Convert Batch Response To Info Pool	convertMSDYNBatchResponseToInfoPoolUtil_util	Converts batch responses into a dictionary of string dictionaries- Key[Content-Id(string)]:Value[batch response for a single job(string dictionary)]
Get Callout Settings	getMSDYNCalloutSettingsDict_util	Gathers information to make internal REST callouts [CPQ for Doc/SubDoc data], as well as external [MS Dynamics]
Get Field Mappings	getMSDYNFieldMappings_util	Gathers mappings of MS Dynamics entity fields to CPQ doc/subdoc attributes
Get Child IDs	mSDYNGetChildIDs_util	Queries dynamics for all the child object IDs with a given parent. During opportunity product synchronization, this is used to determine what products to delete.
Process Response	processMSDYNResponse_util	Takes in the response of a call to create or update a singular entity record in MS Dynamics and parses out the ID of the record(SUCCESS) or an error message(FAILURE)
Map JSON Attrs By Type	mapJsonAttrsByType_util	Takes in a source js object, and maps its values to a target js object, while typing and substituting values where necessary.
Process Import Data	mSDYNProcessImportData_util	Handles mapping of main doc fields, as we only need to handle syncing of quote level data on initial import

Data Tables	
Table Name	Description
CalloutSettings	Holds integration settings
ImportMappings	Holds mapping of Microsoft Dynamics entity fields to OCPQ attributes
ExportMappings	Holds mapping of OCPQ attributes to Microsoft Dynamics entity fields

APPENDIX B: BML SYNTAX FOR COMMERCE LIBRARY FUNCTIONS

Administrators must create BML integrations for the Commerce Library Functions included in the Microsoft Dynamics Integration package. Information about the BML syntax administrators must use for the various Commerce Library Functions is provided below.

IMPORT DATA FOR QUOTE

CPQ Process Variable Name is a string parameter specifying the variable name of the Commerce process. Import Mapping Table Name is a string parameter specifying the data table to use for mapping Dynamics 365 fields to CPQ Cloud attributes.

```
return commerce.mSDYNImportDataForQuote(  
    "oraclecpqo_bmClone_1", // CPQ Process Variable Name  
    "ImportMappings"       // Import Mapping Table Name  
);
```

EXPORT DATA FOR QUOTE

CPQ Process Variable name is a string parameter specifying the variable name of the Commerce process. Export Mapping Table Name is a string parameter specifying the data table to use for mapping Dynamics 365 fields to CPQ Cloud attributes.

Data is a JSON parameter holding Main and Sub document data in the function.

```
return commerce.mSDYNEExportDataForQuote(  
    "oraclecpqo_bmClone_1", // CPQ Process Variable Name  
    "ExportMappings",       // Export Mapping Table Name  
    commerce.mSDYNCollectQuoteFields() // Collect Quote Fields  
Function; This gives "Export Data For Quote" the quote data for  
processing  
);
```

IMPORTANT: mSDYNCollectQuoteFields is a Commerce Library function used to place Main document fields into a data map for use by other functions.

EXPORT DATA FOR LINES

CPQ Process Variable name is a string parameter specifying the variable name of the Commerce process.
Export Mapping Table Name is a string parameter specifying the data table to use for mapping Dynamics
365 fields to CPQ Cloud attributes.

Data is a JSON parameter holding Main and Sub document data in the function.

```
return commerce.mSDYNExportDataForLines(  
    "oraclecpqo_bmClone_1", // CPQ Process Variable Name  
    "ExportMappings",       // Export Mapping Table Name  
    commerce.mSDYNCollectLineFields() // Collect Line Fields Function;  
This gives "Export Data For Lines" the line item data for processing  
);
```

IMPORTANT: mSDYNCollectLineFields is a Commerce Library function used to place Sub document fields into a data map for use by other functions.

UPSERT PRIMARY FLAG

CPQ Process Variable name is a string parameter specifying the variable name of the Commerce process.

```
return commerce.mSDYNUpsertPrimaryFlag(  
    "oraclecpqo_bmClone_1" // CPQ Process Variable Name  
);
```


APPENDIX C: ENTITY FIELDS

The Oracle Quote entity and CPQ Site Settings entity contain the fields available in the following tables.

ORACLE QUOTE ENTITY

The following table identifies the fields available in the Oracle Quote entity.

cpq_oracle_quote		
Field Name	Label	Description
ocpq_name	Name	Holds the name of the CPQ Cloud Transaction.
ocpq_oracle_quoteid	Oracle Quote	Holds the unique identifier for entity instances.
ocpq_opportunity_id	Opportunity ID	Holds the lookup to the Opportunity record.
ocpq_cpq_site_setting_id	CPQ Site	Holds the unique identifier needed to connect to the correct CPQ Cloud instance.
ocpq_bs_id	Buyside ID	Holds the Buyside ID associated with the CPQ Cloud Transaction.

CPQ SITE SETTINGS FIELDS

The following table identifies the fields available in the CPQ Site Settings entity.

cpq_cpq_site_setting		
Field Name	Label	Description
ocpq_name	Name	Holds the display name of the CPQ Cloud site.
ocpq_process	Process Name	Holds the varname of the CPQ Cloud Commerce process.
ocpq_process_id	Commerce Process ID	Holds the ID of the CPQ Cloud Commerce process.
ocpq_action_id_open	Open Action ID	Holds the ID of the integration action that executes upon entering the Oracle Quote page to edit a quote.
ocpq_document_id	Document ID	Holds the ID of the CPQ Cloud Document.
ocpq_url	Site Domain	Holds the URL of the root domain of the CPQ Cloud site. Include the https:// Note: The CPQ site must have SSL enabled
ocpq_site_settings_id	CPQ Site Settings	Holds the unique identifier needed to connect to the correct CPQ Cloud instance.

APPENDIX D: KEY RESOURCES

Refer to the following resources for information applicable to the CPQ Cloud – Dynamics 365 integration:

- For information about the sales user experience for creating, updating, and deleting CPQ Cloud Quotes from within Dynamics 365, refer to the *Microsoft Dynamics 365 Integration* section of the [CPQ Cloud Release 18A What's New Document](#) or the CPQ Cloud Administrator Online Help.
- For information about Azure Active Directory, refer to the [Azure Active Directory Documentation](#).
- For information about setting up users and roles in Dynamics 365, refer to the documentation provided on <https://www.office.com>.



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