ISS CFC Integration Guide 1608r

1.4

User Manual

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1 Introduction

The integration between C4C and ISS is to allow user to import Account, Opportunity, and Quote data from C4C into ISS and export Quote from ISS to C4C. Currently, ISS allow the user to import account, opportunity and quote from C4C into ISS using the HTML Mashup as ISS embedded view inside the C4C system/URL Mashup as a web service in C4C. Figure 1 shows the brief overview of the three different use cases of supported integration by ISS.

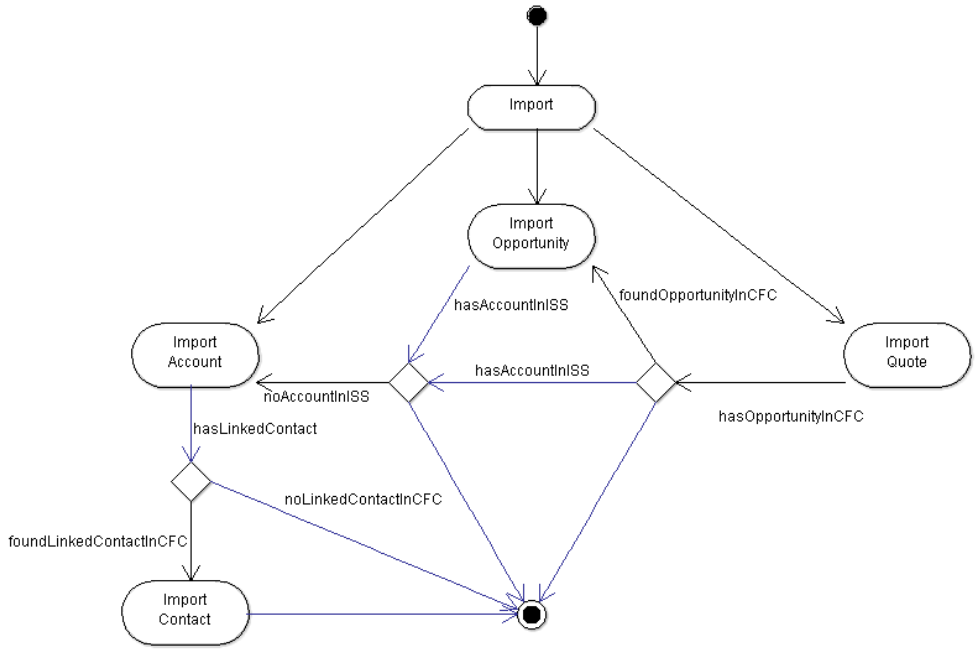


Figure 1 Overview of CFC Integration Scenarios

In addition to the integration from C4C side, ISS also allows the user to synchronize supported master data with the C4C as mentioned in section 8.

1.1 What's new in 1604 and 1608

Starting from 1604 following new features are available:

- Approval Flow
  - Enabling the approval process in external system (See: Section 7)
- Import Process Enhancements
  - Importing and exporting of sales data in CFC
  - Importing of sales document type
  - Importing the quote language
- Importing Partner from CFC (Ref: Section 5)
- Export Process Enhancements
  - Exporting only products that are marked to export
  - Exporting the custom fields (Ref: Section 10)
  - Exporting proposal report and attachments based on setting (Ref: Section 13)
  - Exporting attachment as soon as the attachment was uploaded in CPQ.
- Background Jobs
  - Importing account and partners in background
  - Exporting proposal in background
- Using the CFC Namespace for external objects
  - Account, Contact, Address
  - Opportunity
  - Quote
  - Master Data

1.2 System set up CFC to CPQ

Before we proceed to the details of how each import process works and what are the limitation and features, it is necessary to setup the two systems to be able to talk each other by defining the URL Mashup/HTML Mashup in CFC and defining the external CRM system setting in application-implementation.owl.

1.2.1 Checking the application.properties

In order to make a web service call, the following properties are needed to define in **[application.properties]**.

```
com.imc.app.iss.integration.cfcUrl=https://my303923.crm.ondemand.com
com.imc.webapp.app.id.remote.businesssytem=ERPIMC
```

where the business system refers to the ERP system that connects with the defined CFC system. For development system, it is defined as ERPIMC in CFC communication system. The steps to define the ERP System Instance ID is explained in Section 12.

1.2.2 Checking the application-implementation.owl

The following settings are needed to be defined in application implementation.

```
    <!-- http://www.inmindcomputing.com/application/application-schema.owl#SettingExternalCRM -->
    <rdf:Description rdf:about="&as;SettingExternalCRM">
        <as:settingValueString rdf:datatype="&xsd;string">CFC</as:settingValueString>
    </rdf:Description>

    <!-- http://www.inmindcomputing.com/application/application-schema.owl#SettingQuoteStatusControlInIssEnabled -->
    <rdf:Description rdf:about="&as;SettingQuoteStatusControlInIssEnabled">
        <as:settingValueBoolean rdf:datatype="&xsd;boolean">true</as:settingValueBoolean>
    </rdf:Description>

    <!-- http://www.inmindcomputing.com/application/application-schema.owl#SettingExportQuoteStatus -->
    <rdf:Description rdf:about="&as;SettingExportQuoteStatus">
        <as:settingValueBoolean rdf:datatype="&xsd;boolean">true</as:settingValueBoolean>
    </rdf:Description>
```

If the namespace and prefix of custom fields are not same as standard one, the following Settings are needed to define customized namespace and prefix for custom fields. The details about the steps to create custom fields and to get namespace and prefix are explained in Section 10.

```
    <!-- http://www.inmindcomputing.com/application/application-
schema.owl#SettingExportCRMQuoteCustomFieldNamespaceUrl -->
    <rdf:Description rdf:about="&as;SettingExportCRMQuoteCustomFieldNamespaceUrl">
        <as:settingValueString
rdf:datatype="&xsd;string">http://sap.com/xi/AP/CustomerExtension/BYD/A0014</as:settingValueString>
    </rdf:Description>

    <!-- http://www.inmindcomputing.com/application/application-
schema.owl#SettingExportCRMQuoteCustomFieldPrefix -->
    <rdf:Description rdf:about="&as;SettingExportCRMQuoteCustomFieldPrefix">
        <as:settingValueString rdf:datatype="&xsd;string">a00</as:settingValueString>
    </rdf:Description>
```

1.2.3 Activating the web services in CFC

The CPQe will consume the following web services from CFC:

- Query Code Lists
- Query Object Identifier Mapping
- Query Materials
- Query Accounts
- Query Contacts
- Query Opportunities
- Sales Quote Integration
    - Manage Sales Quote In
    - Query Sales Quote In

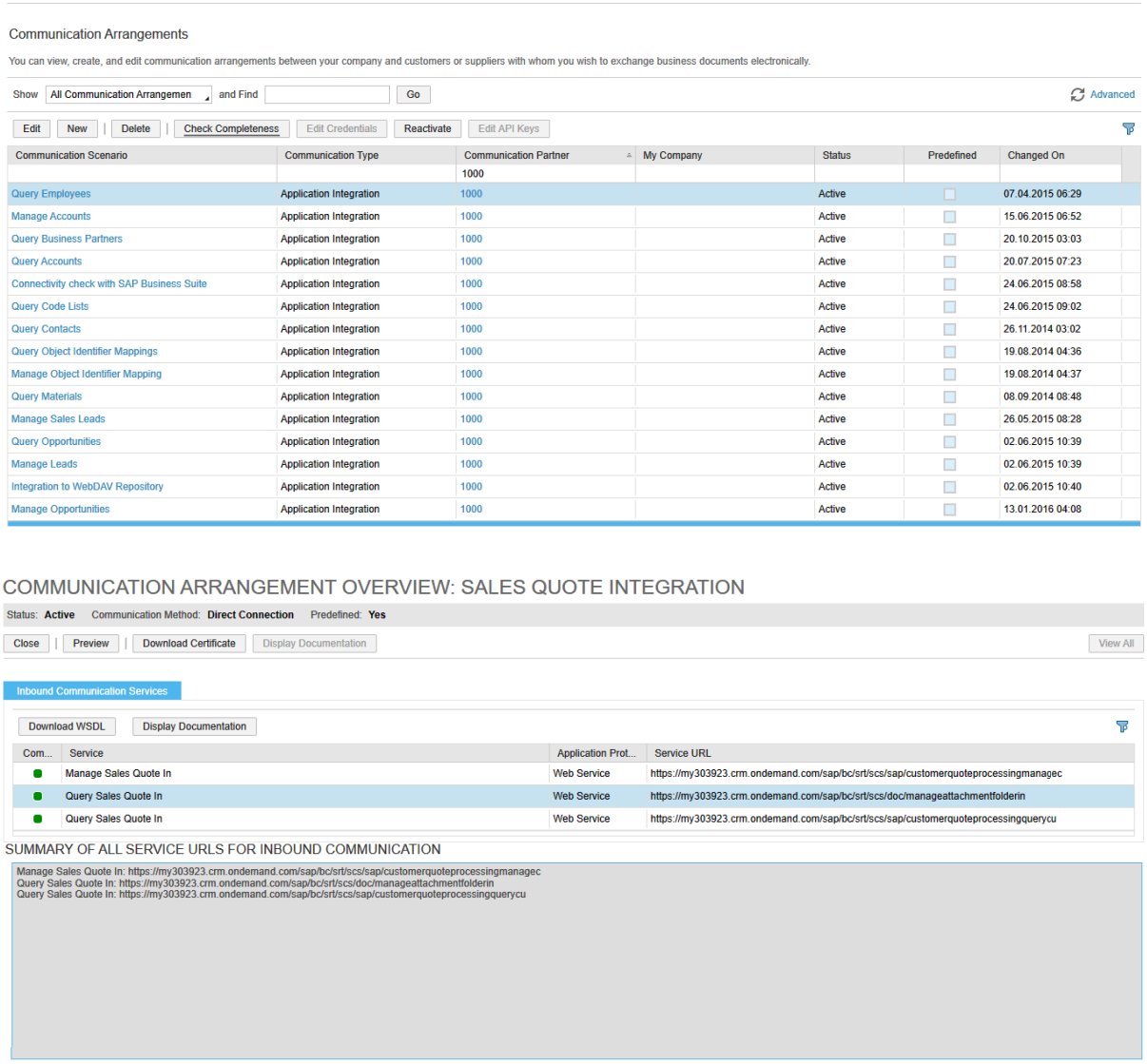


Figure 2 Example Communication Arrangements

1.2.4 Setting HTML Mashup in C4C

In order to define the HTML Mashup/URL Mashup,

- Log in as administrator to go to Mashup Authoring inside the administration tab as shown in Figure 3.
- Select **New** and click **URL Mashup** if you want to provide as web services
- Select **New** and click **HTML Mashup** if you want ISS view to embed inside the C4C.

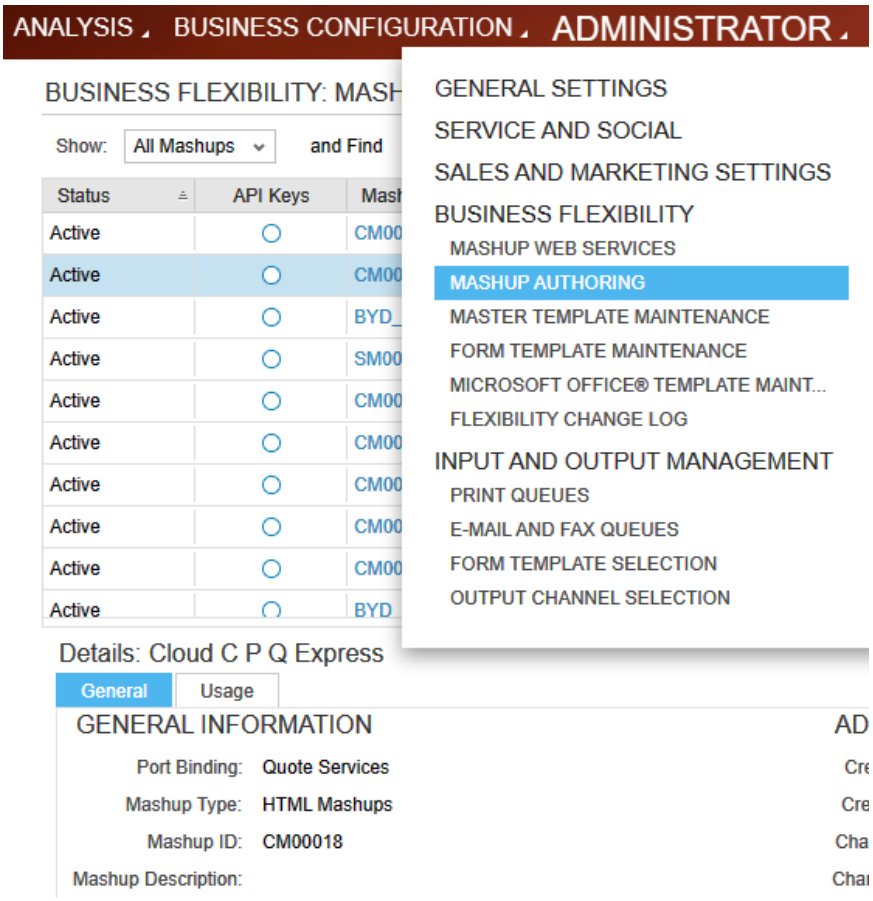


Figure 3 Selecting the Mashup Authoring

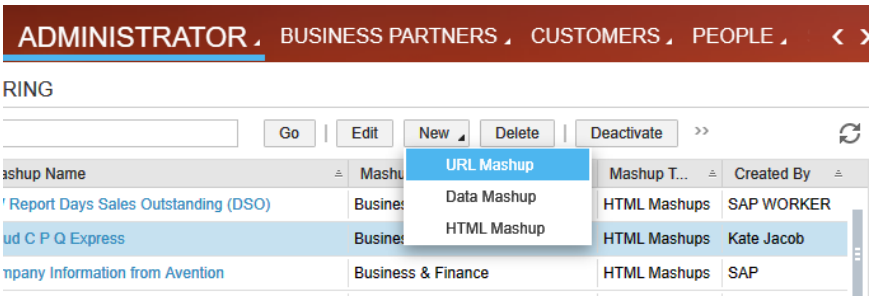


Figure 4 Creating the new URL Mashup

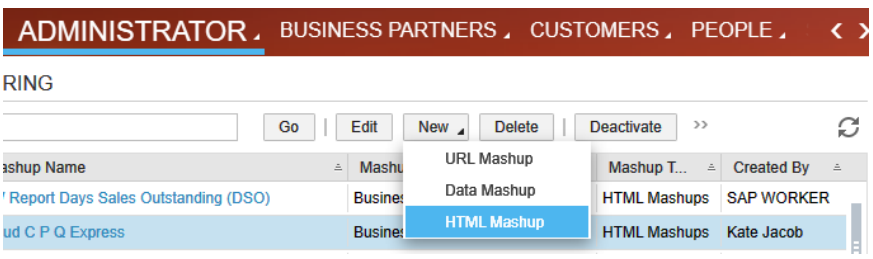


Figure 5 Creating the New HTML Mashup

1.2.4.1 Setting up in C4C to export Account to ISS

In order to create the HTML mashup for account export to ISS, the following URL is needed to export account to ISS where you can set uiModeEmbedded=true if you want to show the ISS view inside the C4C.

- https://xxx.xxx.com/iss/?entryPoint=CFC&action=importAccount&accountID=AccountInternalID&uiModeEmbedded=true

- Select **Mashup Category** as **Business & Finance**
- Choose **Additional Account Information** as **Port Binding**
- Give a Mashup Name (For example: ISS Account)
- Under the Configuration Information
    - Put the above URL
    - Set the Height
    - Click Extract Parameters
    - Change accountID parameter not to use Constant
        - Select AccountInternalID
- Once all are done, you can click Preview to see the Log in Page of ISS
- Click Save and Close

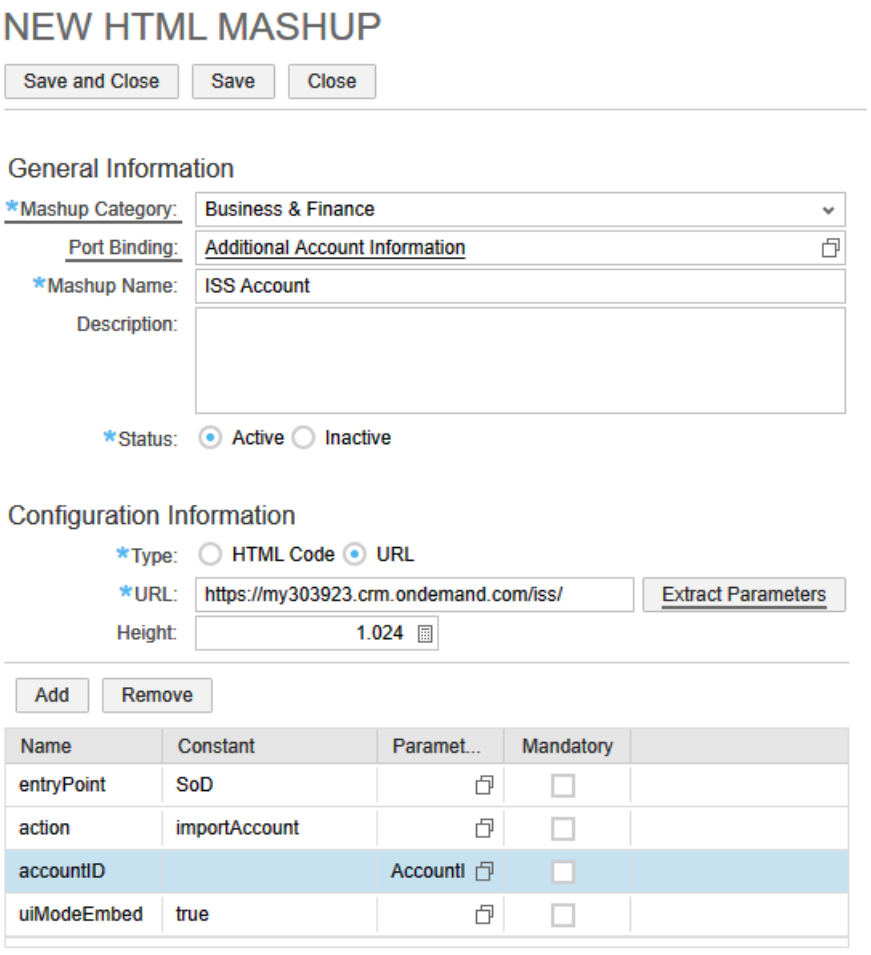


Figure 6 Example HTML Mashup for Account

1.2.4.2 Setting up in C4C to export Opportunity to ISS

In order to create the HTML mashup for opportunity export to ISS, the following URL is needed to export account to ISS where you can set uiModeEmbedded=true if you want to show the ISS view inside the C4C.

- https://xxx.xxx.com/iss/?entryPoint=CFC&action=importOpportunity&opportunityID=OpportunityID&uiModeEmbedded=true
- Select **Mashup Category** as **Business & Finance**
- Choose **Additional Account Information** as **Port Binding**
- Give a Mashup Name (Example. ISS Opportunity)
- Under the Configuration Information
    - Put the above URL
    - Set the Height
    - Click Extract Parameters
    - Change opportunityID parameter not to use Constant value
        - Select OpportunityID
- Once all are done, you can click Preview to see the Log in Page of ISS
- Click Save and Close

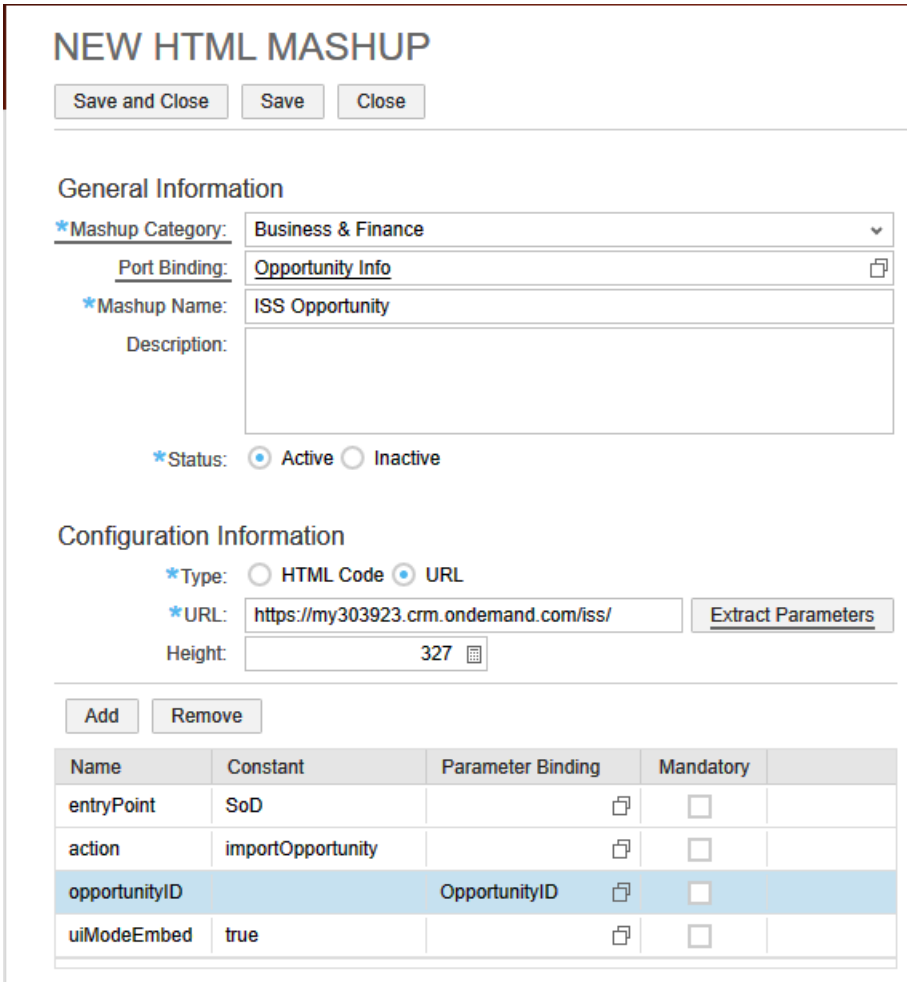


Figure 7 Example HTML Mashup for Opportunity

1.2.4.3 Setting up in C4C to export Quote to ISS

In order to create the HTML mashup for quote export to ISS, the following URL is needed to export account to ISS where you can set uiModeEmbedded=true if you want to show the ISS view inside the C4C.

- https://xxx.xxx.com/iss/?entryPoint=CFC&action=importQuoteLight&quoteID=ObjectID&uiModeEmbedded=true

(or)

- https://xxx.xxx.com/iss/?entryPoint=CFC&action=importQuote&quoteID=ObjectID&uiModeEmbedded=true
- Select **Mashup Category** as **Business & Finance**
- Choose **Quote Services** as **Port Binding**
- Give a Mashup Name (Example. Cloud C P Q Express)
- Under the Configuration Information
    - Put the above URL
    - Set the Height as 1024
    - Click Extract Parameters
    - Change quoteID parameter not to use Constant value
        - Select ObjectID
- Once all are done, you can click Preview to see the Log In Page of ISS
- Click Save and Close

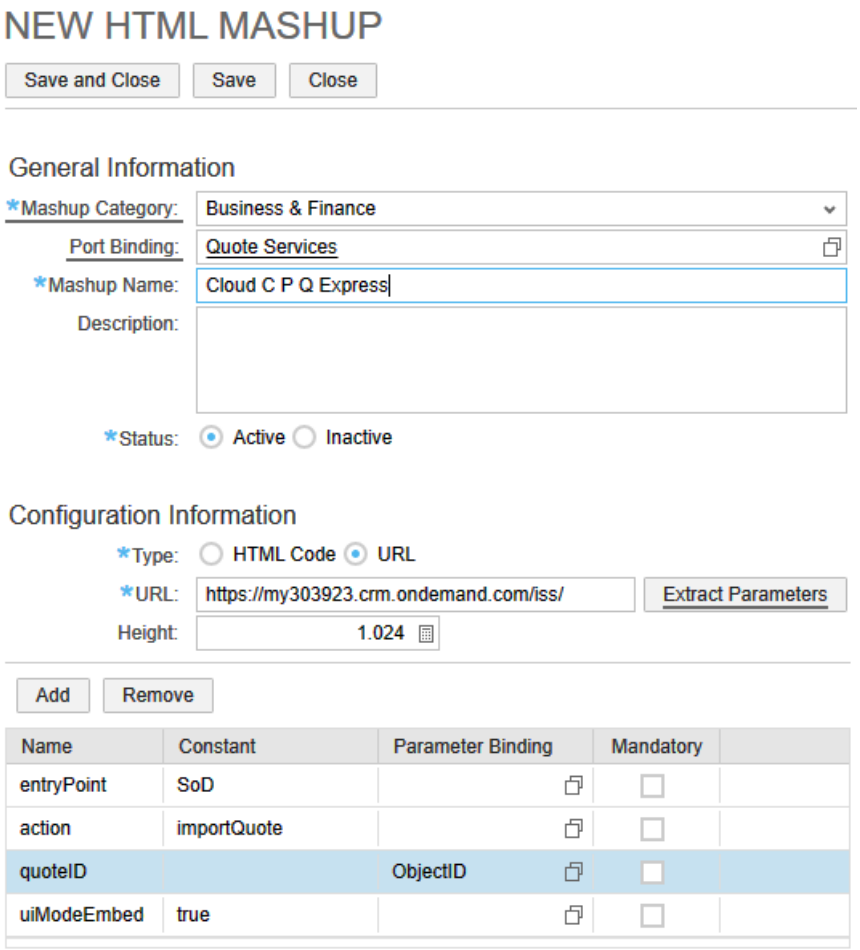


Figure 8 Example HTML Mashup for Quote

Once the mashup authoring is done, you can now personalize the account, opportunity and quote page to embed HTML Mashup as an embedded component or provide URL Mashup as a web service call as shown in Figure 9.

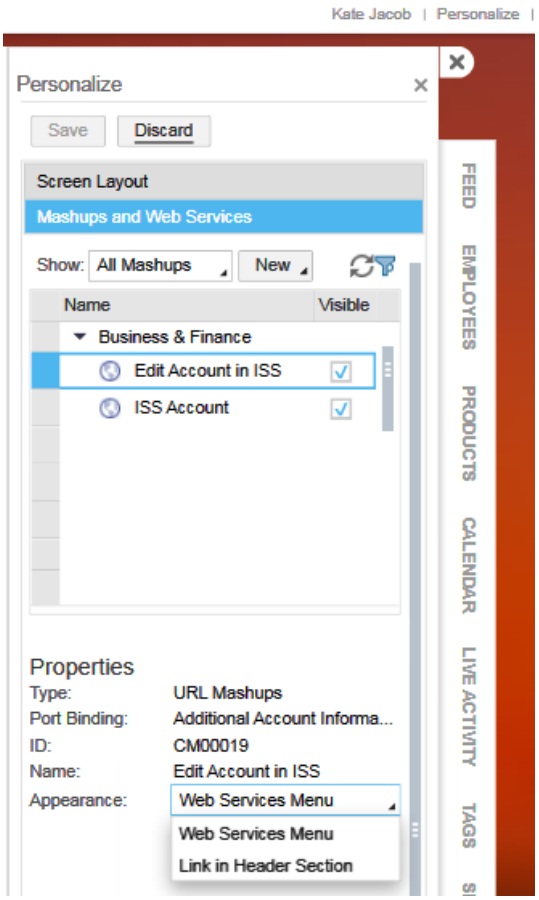


Figure 9 Embedding HTML/URL Mashup

2 Importing Account from C4C

The user can export account from C4C to ISS where he/she can create opportunity or quote in ISS and export quote back to C4C from ISS.

Figure 10 Process Flow Diagram by Account Import

During the exporting of account from C4C to ISS, the ISS will also synchronize the account related data including addresses and contacts of account. Once the web service has been setup in CFC using HTML Mashup or URL Mashup, the user can now export Account from C4C system into ISS. For HTML Mashup, depending on where you put the embedded component, the ISS login page will be shown inside the C4C as shown in Figure 12. For URL Mashup, the link will be appeared in web service menu and the ISS will be open in separate window where you can see the log in page.

- Press ISS Account menu to go to ISS Account Tab

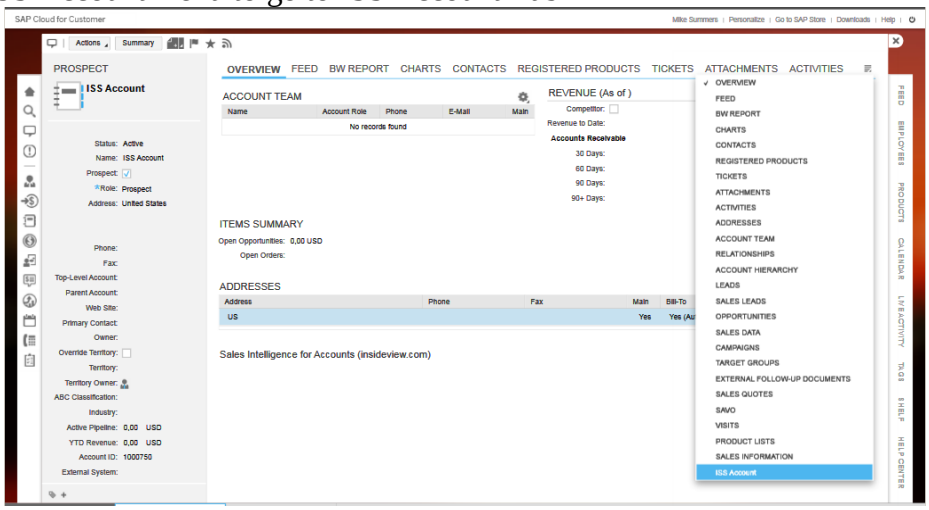


Figure 11 Selecting the ISS Account Tab

- Log in to ISS

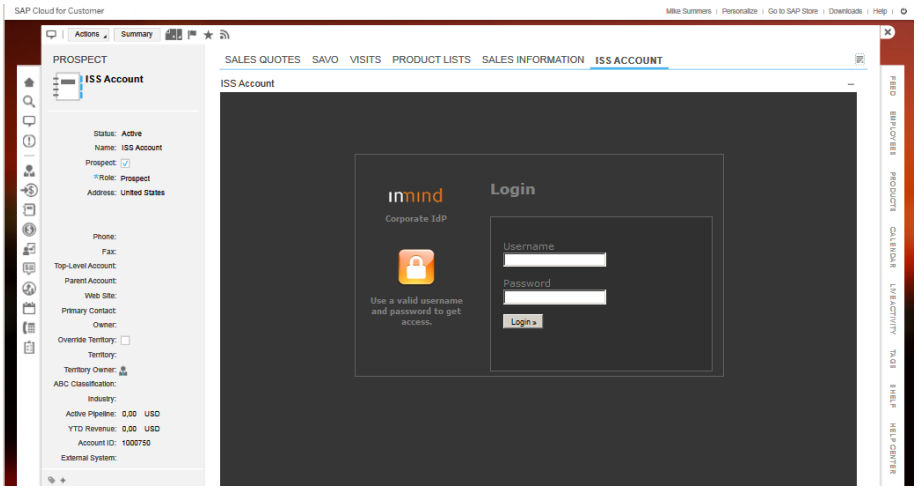


Figure 12 ISS Log In View inside C4C

- After logging in successfully, the account will be exported to ISS if the account was not found in ISS or will be synchronized if the account was already inside the ISS. Figure 13 shows an example of Account View of ISS inside the C4C system.

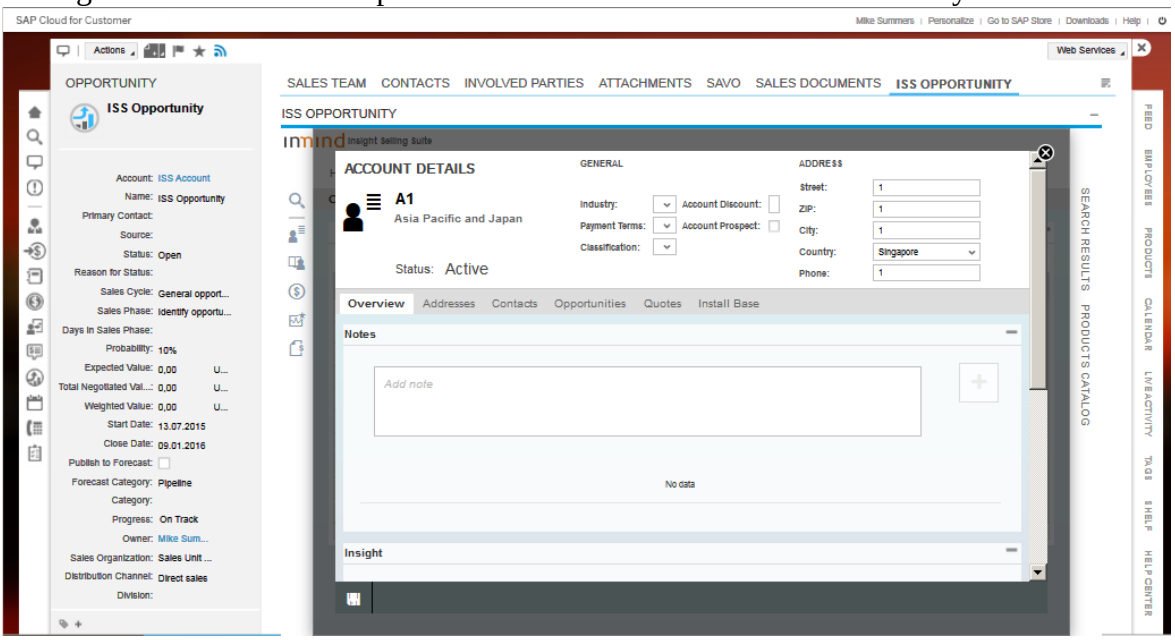


Figure 13 ISS Account View inside C4C

2.1 Synchronization of Account from C4C

While importing the account from C4C, the ISS will also synchronize the account if the account from C4C is already existed in ISS. The following processes will be done during the synchronization.

- Updating the account header such as account name, account status (such as active/inactive), account ECC ID, industry, main address, etc.)
- Importing the Sales Info
- Creating New Address and Contact
    - Importing new addresses found inside the C4C.
    - Importing new contacts found inside the C4C.
- Deleting Non-Used Addresses and Contacts
    - Deleting those addresses of account with an external id which are not found in C4C as well as are not used in other business objects.
    - Deleting those contacts of account with an external id which are found in C4C as well as are not used in other business objects.

The sync button will also be appeared in Account Details page as well as inside the account overview page for those accounts which were imported from external system such as (C4C/SFDC).

2.2 Exceptions during Exporting Account from C4C

2.2.1 Certificate Expired

- Notification
    - IMPORT FAILED: The certificate expired.
- Issue

  - This issue could be due to the fact that the web service certificate was expired on C4C system.
- Solution
  - You can contact the person who has administration role in C4C system to regenerate the new certificate and upload into ISS via the CMIS upload tab of the administration page in ISS. Please refer to section 9.2.

2.2.2 External System Not Found in ISS

- Notification
  - Synchronization not possible. No external system is not specified.
- Issue
  - This issue will happen if the account needs to be synchronized as it was already imported into ISS. However, the external setting to specify the external system was not found.
- Solution
  - Please define the external system (such as C4C or SFDC) to be synchronized from as explained in section 2.

2.2.3 Account without Name/Description

- Notification
  - IMPORT FAILED : The account name is missing in external system.
- Issue
  - If the account does not have name/description, the ISS will fail to import the account from C4C as it is used to assign the business type short text of an account.
- Solution
  - Please define the name/description of the Account in C4C.

2.3 Information during Exporting Account from C4C

2.4 Warnings during Exporting Account from C4C

2.4.1 Owner of Account is not found in ISS

- Notification
  - Owner with employee id, {0}, not found in ISS.
- Issue
  - The ISS will show a warning inside the notification bar if the employee responsible party assigned to the account in CFC is not found in user list of ISS.
- Solution
  - The owner of account in C4C is not found inside the ISS via external id of the user, the ISS will use the current logged in user as an owner of the imported account.

- In order to prevent further notification, please make sure that the users available in CFC are all defined in ISS with the correct mapping using external id.

2.4.2 Sales Data of Account Not Found in CFC

- Notification
  - Sales info not found in external system.
- Issue
  - If the account in C4C does not have sales data such as Sales Organization and Distribution Channel, the quote created from that account cannot be exported back to C4C. Thus it is necessary to make sure that the sales organization and distribution channels are already mapped between two systems before the deployment.
- Solution
  - In order to export this account, define the Sales Data in CFC and make sure that the sales organization and distribution channel code are mapped correctly inside the ISS. Once this is once, you can synchronize again to fetch the sales data in CFC into the ISS.

2.4.3 Sales Organization Not Supported

- Notification
  - Sales organization code, {0}, not supported.
- Issue
  - You will receive the warning when you assigned the sales organization in C4C but the ISS does not have the same sale organization with same external id which is an internal id in CFC.
- Solution
  - Please define the same sales organization in ISS with external id for mapping.

2.4.4 Distribution Channel Not Supported

- Notification
  - The Distribution channel code, {XXX} not supported.
- Issue
  - You will receive the warning when you assigned the distribution channel in C4C however, the ISS does not have the same distribution channel with same external id which is an internal id in CFC.
- Solution
  - Please define the same distribution channel in ISS with external id for mapping.

You could also synchronize the Distribution Channel Code from external system using the Master Data tab inside Admin Page as shown in section 8.

2.4.5 Industry Not Found in CFC

- Notification

    - The industry code not found in external system.
- Issue
    - The account in C4C need to have industry assigned as well as that industry is already mapped inside the ISS.
- Solution
    - ISS provides a tool that can synchronize all the industry defined in CFC using the master data section of an administration page via the admin user.

2.4.6 Industry Not Supported in ISS

- Notification
    - The industry code, {XXX}, not supported.
- Issue
    - The account in C4C needs to have industry assigned as well as those industry is already mapped inside the ISS. Otherwise, the exporting of imported account from ISS will fail.
- Solution
    - Assign the correct industry for the account as the ISS will ignore industry if it is not found
    - Please make sure that the external id of assigned industry is mapped to the industry defined in CFC.
    - In order to prevent further warning notification, please define all the industry in CFC inside the ISS with the mapping via external id. You could also synchronize all the industry supported in CFC into ISS using the master data tab inside the administration page via admin user.

2.4.7 Country Not Found in External System

- Notification
    - The country not found in external system.
- Issue
    - The account in C4C needs to have country.
- Solution
    - Assign the country of an address in C4C.

2.4.8 Country Associated with Account Not Supported

- Notification
    - The country code, {xxx}, not found.
- Issue
    - The account in C4C needs to have country assigned as well as the assigned country is already mapped inside the ISS.
- Solution
    - Define all/selected countries which are inside the CFC inside the ISS. If you want to define all countries in CFC into ISS, you could also do so via the master data tab inside the administration page via admin user.

2.4.9 Classification Code Not Supported in ISS

- Notification
    - Classification code, {0}, not supported.
- Issue
    - If the classification code in C4C is not found in ISS via external id, the warning will be displayed.
- Solution
    - Check the classification code mapping between ISS and C4C.
    -

3 Importing Opportunity from CFC

Figure 14 Process Flow Diagram by Opportunity Import

In order to export opportunity from CFC, you can trigger the service via web service menu using URL Mashup which will bring you to new window or HTML Mashup which will embed ISS View inside the C4C system. In order to export HTML Mashup, select the [ISS OPPORTUNITY] menu as shown in Figure 15.

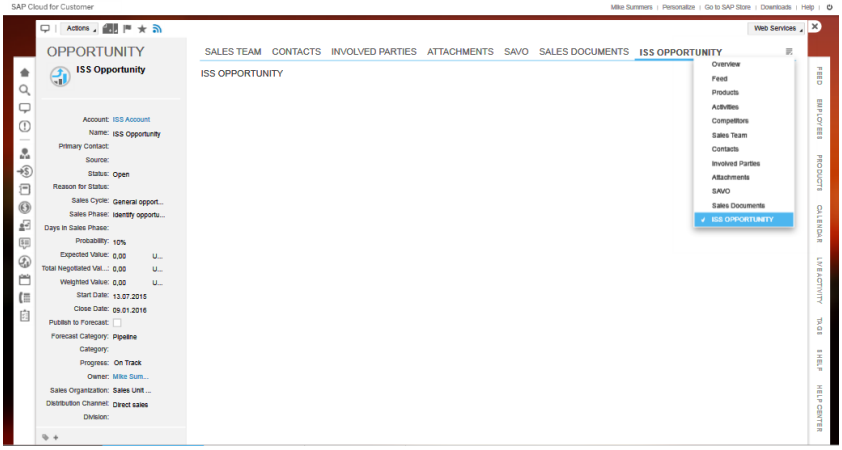


Figure 15 Selecting ISS Opportunity Tab

Log in to ISS as shown Figure 16.

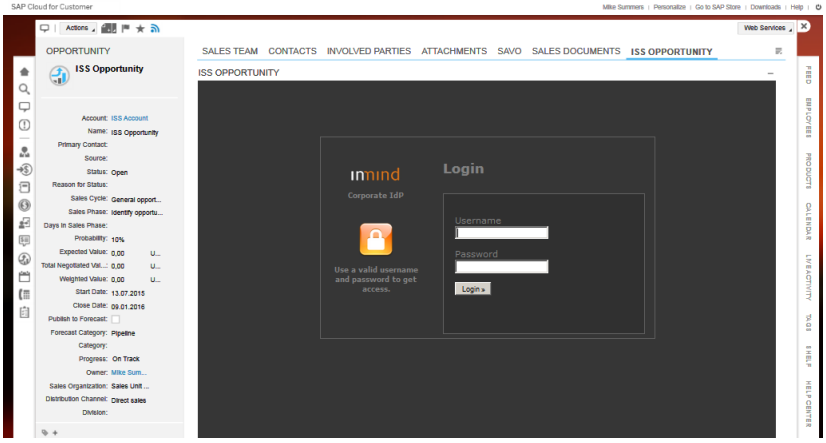


Figure **16** ISS Log In View inside C4C

After logging in, the opportunity view with the current opportunity inside C4C will be shown in Figure 17.

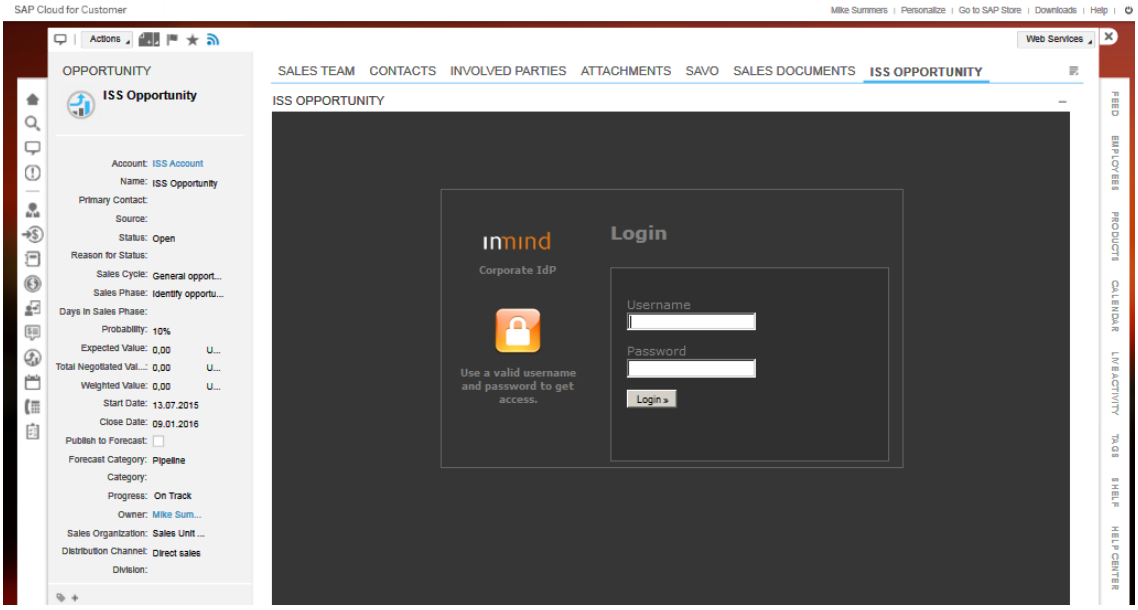


Figure **17** Opportunity View in ISS

3.1 Exceptions during Exporting Opportunity from C4C

While importing opportunity from CFC, the ISS will also import the account associated with the opportunity. Therefore, you may see the exceptions and warnings mentioned in section 2.2 and 2.4 as well.

3.1.1 Currency Code Not Supported in CFC

- Notification
  - IMPORT FAILED: The CURRENCY CODE, {0}, not supported.
- Issue
  - This exception will happen if the currency code of an expected revenue amount is not supported in ISS.
- Solution
  - Define the new currency code in ISS which is mapped to the currency code in CFC. You could also synchronize the currency code in CFC into ISS using the master data tab of the administration page via admin role.

3.1.2 Certificate Expired

- Notification
  - IMPORT FAILED: The certificate expired.
- Issue
  - This issue could be due to the fact that the web service certificate was expired on C4C system.
- Solution
  - You can contact the person who have administration role in C4C system to regenerate the new certificate and upload into ISS via the CMIS upload tab of the administration page in ISS. Please refer to section 9.2.

3.2 Warnings during Importing Opportunity from C4C

3.2.1 LIFE CYCLE STATUS CODE NOT SUPPORTED IN ISS

- Notification
  - The status code, {0}, not supported.
- Issue
  - The importing of opportunity from CFC will fail if the ISS does not have a life cycle status code of an imported opportunity.
- Solution
  - To solve the issue, assign the correct external id of each sales document status code with the internal id of the life cycle status code defined inside the CFC.
  - Currently, ISS has the following sales document status codes.

Table 1 Mapping of Sales Document Status

Sales Document Status		
Business Type Id	Business Type Short Text	Business Type External Id
1	Open	1
2	Imported	2
3	Stopped	3
4	Won	4
5	Lost	5
98	Completed	98
99	Approved	99
101	Accepted	101
102	Rejected	102

3.2.2 Sales Phase Code Not Supported in ISS

- Notification
  - The Sales Cycle code, {0}, not supported.
- Issue
  - The issue happened when the imported opportunity has sales cycle phase code which was not mapped correctly in ISS via the external id of the SalesPhase.
- Solution
  - In order to remove the further warning notification, you can make sure that the external ids of the sales phases in ISS are mapped correctly to the SalesCyclePhaseCode of the C4C system.

Table **2** Sales Phase Code Used in ISS

Sales Phases in ISS			
Business Type Id	Business Type Short Text	Business Type External Id	Label (English)
000	SalesPhase1	000	LEAD
001	SalesPhase2	001	Identify opportunity
002	SalesPhase3	002	Qualify opportunity
003	SalesPhase4	003	Develop value proposition
004	SalesPhase5	004	Quotation
005	SalesPhase6	005	Decision
006	SalesPhase7	006	Close

3.2.3 Origin Type Code Not Supported in ISS

- Notification
  - The Source, {0}, not supported.
- Issue
  - The ISS will display notification if the source is not found in ISS based on the OriginalTypeCode of an imported opportunity.
- Solution
  - In order to solve the issue for the future use case, define/assign the objectExternalId of source individual inside the ISS.

3.2.4 Opportunity without Sales Forecast (Probability Percent)

- Notification
  - A probability percent not found in external system.
- Issue
  - The imported opportunity does not have sales forecast data such as probability percent.
- Solution
  - You can delete the existing imported opportunity in ISS. After that, you assign the sales forecast in C4C and re-export it back to ISS.

4 Importing Quote from C4C

ISS provide importing of internal quote and importing external quote. The data point used in the import process can be found in . As the ISS needs company assigned while creating/synchronizing a quote, the company assigned to user will be assigned automatically while creating a quote from CFC.

4.1 Internal Quote

The internal quote is defined if the quote is created in CFC and imported to CPQe. For the internal quote, the user can edit the quote data not only in CFC but also in CPQe. However, only the first import of the quote will import the product data because the line items configurations are to be done in CPQe.

Figure 18 Process Flow Diagram by Internal Quote Import

4.1.1 Background Synchronization of Associated Account and Partner Function

With 1604/8 release, the associated account of quote and partner functions of quote are synchronized in the background. After successful synchronization in background, you will see the notification as shown below.

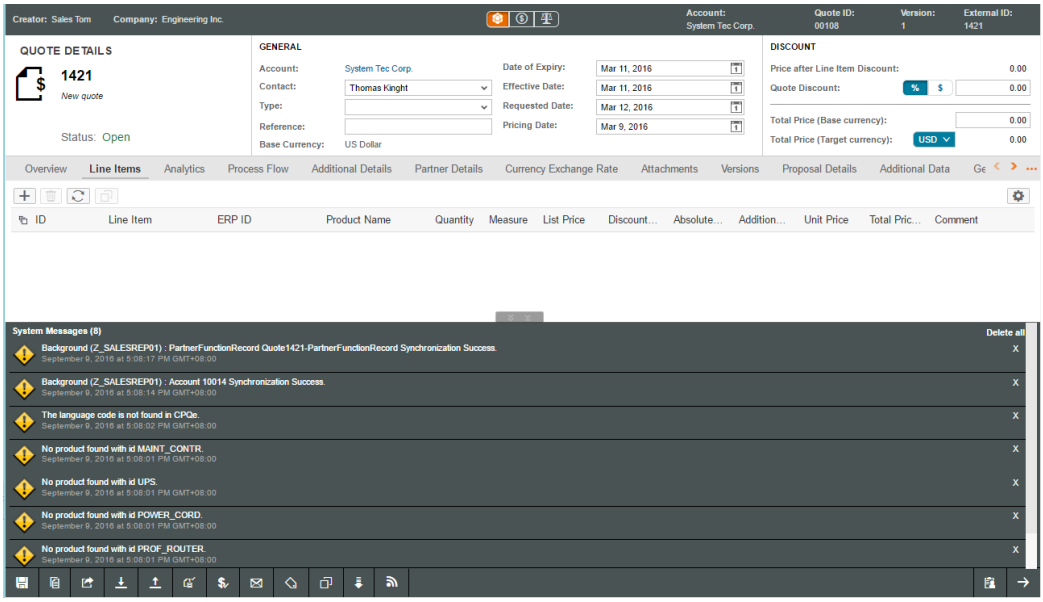


Figure 19 A notification for showing successful background jobs

If the background jobs fail due to any reason, you can click on the background notification in the notification bar to retry the operation or go to the account or partner page to manually initiate the synchronize operation.

4.1.2 Importing a contact of quote from non-associated account

In CFC a quote could be assigned a contact from another account. To support this case, the following notification message will be displayed and a contact will be created inside the associated account of quote in CPQe.

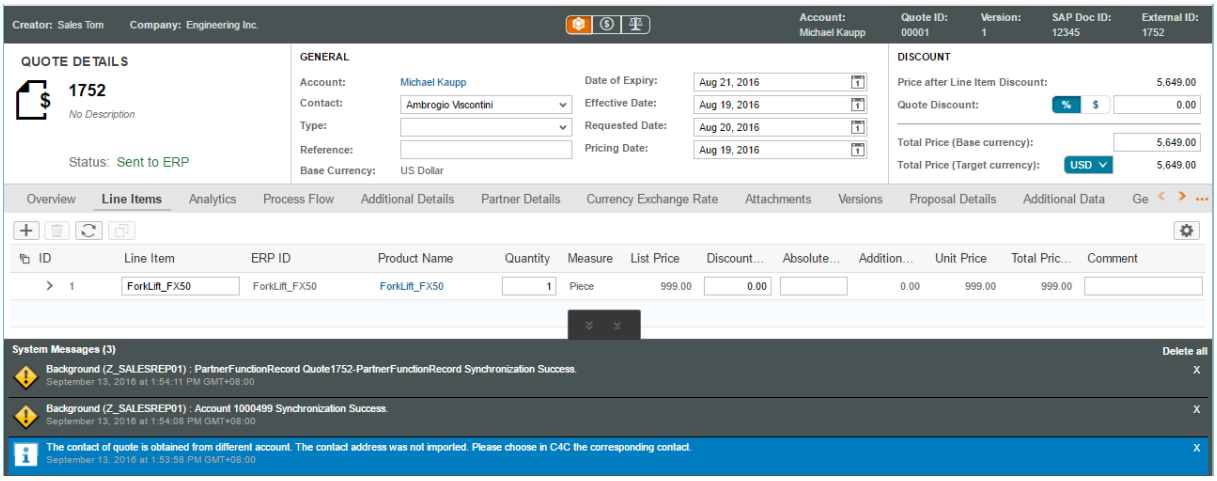


Figure 20 A notification for importing quote with contact from other accounts

4.2 External Quote

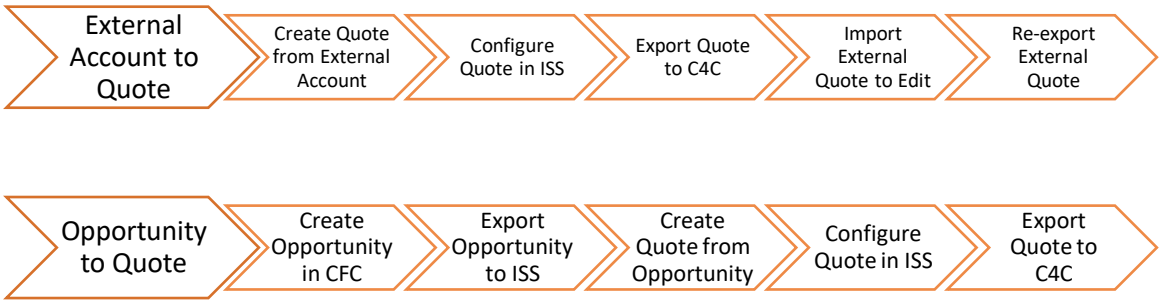


Figure 21 Figure 22 Process Flow Diagram by External Quote Import

For every import of quote, it is necessary to have the product with correct objectERPId assigned. Only those products having objectERPId assigned can be searched using the internal ID of product in CFC. Those products with invalid objectERPId assigned will be ignored to import.

4.3 Exceptions during Importing Quote from C4C

4.3.1 Certificate Expired

- Notification
  - IMPORT FAILED: The certificate expired.
- Issue
  - This issue could be due to the fact that the web service certificate was expired on C4C system.
- Solution

- You can contact the person who have administration role in C4C system to regenerate the new certificate and upload into ISS via the CMIS upload tab of the administration page in ISS. Please refer to section 9.2.

4.3.2 Quote without ID

- Notification
  - IMPORT FAILED: The quote name is invalid.
- Issue
  - This issue happened when the quote in CFC does not have name assigned as ISS use the name of quote as the business type short text of quote which has to be asserted.
- Solution
  - In order to solve this issue, you need to assign the name of the quote in CFC System.

4.3.3 Currency Code of Quote Not Found in CFC

- Notification
  - Currency code not found in external system.
- Issue
  - This issue is mainly due to the lack of currency code in exported quote from CFC.
- Solution
  - In order to prevent receiving the same warning messages, please make sure that all the quote to be exported to ISS has the currency code assigned in CFC.
- Remark
  - It is imported to have currency assigned while exporting the same quote back to CFC from ISS. Otherwise, the exporting of the same quote from ISS to CFC will fail.

4.3.4 Currency Code of Quote Not Supported in CFC

- Notification
  - Currency code, {0}, not supported.
- Issue
  - The currency code assigned to Quote in C4C is not found in ISS.
- Solution
  - In order to prevent receiving the same warning messages, please make sure that the currency codes used in ISS and C4C are same.

4.4 Warnings during Importing Quote from C4C

4.4.1 Product Not Supported in ISS

- Notification
  - Product, {0}, not supported
- Issue

    - This is shown if the product in C4C is not found in ISS
- Solution
    - In order to prevent receiving the same warning messages, please make sure that the product codes are mapped correctly between the two systems.

5 Importing Partners from C4C

The certain associated partners of opportunity and quote can be imported to CPQe according to the partner function types defined in CPQe systems. The followings are the supported partner functions in CPQe.

Table 3 Available Partner Function in ISS

Partner Function Type	Business Object to Assign
AccountFunctionType	Account
CompanyFunctionType	Company
ContactFunctionType	Contact
UserFunctionType	User
SalesTeamFunctionType	Not Supported

5.1 How to get the internal ID of employee for Sales Employee Party and Employee Responsible Party

For importing partner function of type, User, it is necessary to assign the correct external id of user from the internal id of employee in C4C system. The internal ID of employee can be obtained from the following OData service call. Example: Calling OData service to get all employees will show the results as shown in Figure 23.

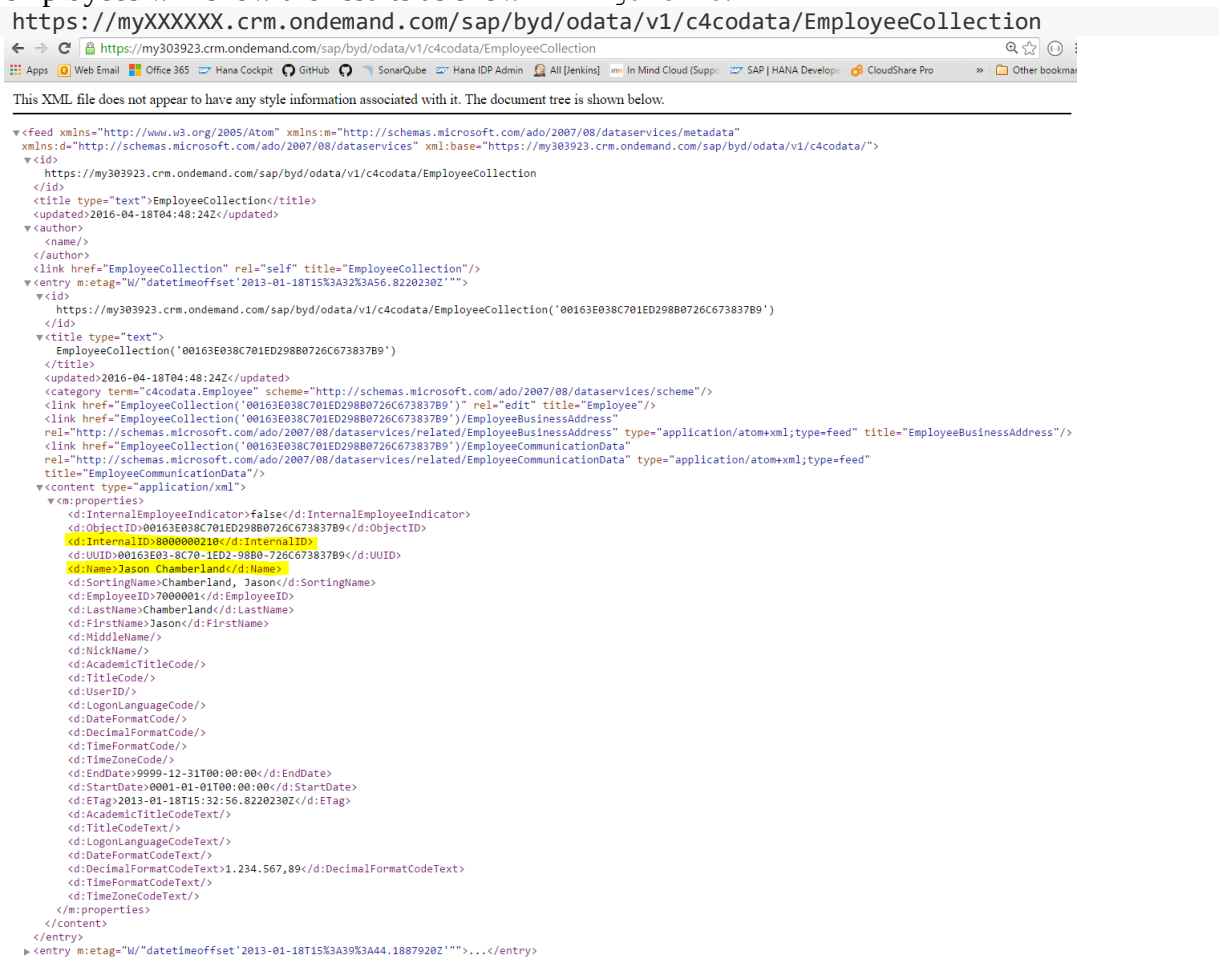


Figure 23 Getting the Internal Id of Employee

5.2 Importing Partners of Opportunity from C4C

Table 4 shows the list of available partners in CFC and supported partners in CPQe.

Table 4 List of Partners Available in CFC and Supported Partners in CPQe

CFC Partner	ISS Equivalent	Quote CFC Import	Remark/Reason
SALES_EMPLOYEE_PARTY	User	Supported	
EMPLOYEE_RESPONSIBLE_PARTY	User	Supported	
PROSPECT_PARTY	Account	Supported	
SALES_UNIT_PARTY	Not Supported	Not Supported	
SALES_TEAM_PARTY	Not Supported	Not Supported	
COMPETITOR_PARTY	Not Supported	Not Supported	
OTHER_PARTY	Not Supported	Not Supported	

The following setting is defined in application schema and is used to enable the synchronization of partners from imported opportunity.

```
<owl:NamedIndividual rdf:about="&as;SettingSyncPartnerOpportunityEnabled">
   <rdf:type rdf:resource="&as;SettingBoolean"/>
   <rdfs:label rdf:datatype="&xsd;string">SettingSyncPartnerOpportunityEnabled</rdfs:label>
   <ps:objectName rdf:datatype="&xsd;string">Enables synchronization of Partners for Opportunity import from
CRM</ps:objectName>
   <settingKey rdf:datatype="&xsd;string">setting.sync.partner.opportunity.enabled</settingKey>
</owl:NamedIndividual>
```

By default, the partners will not be synchronized. If you want to synchronize the partners by default, it is necessary to set the settingValue in customization or via admin screen.

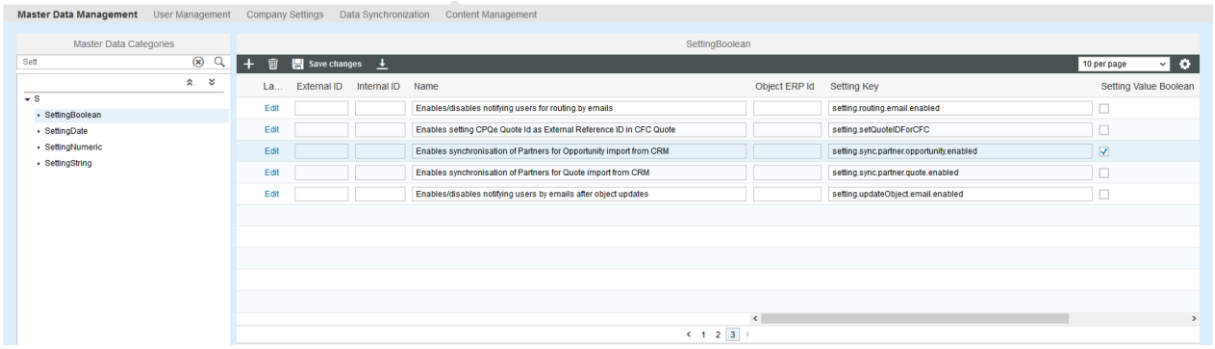


Figure 24 Enabling to import the associated partners of imported opportunity

```
    <rdf:Description rdf:about="&as; SettingSyncPartnerOpportunityEnabled ">
        <as:settingValueBoolean rdf:datatype="&xsd;boolean">true</as:settingValueBoolean>
    </rdf:Description>
```

5.3 Importing Partners of Quote from C4C

Table 5 shows the list of available partners in CFC and supported partners in CPQe.

Table 5 Supported Partners for Quote

CFC Partner	ISS Equivalent	Quote CFC Import	Remark/Reason
BILL_TO_PARTY	Account	Supported	
SHIP_TO_PARTY	Account	Supported	
BUYER_PARTY	Account	Supported	
PAYER_PARTY	Account	Supported	
SELLER_PARTY	Account	Supported	
SALES_EMPLOYEE_PARTY	User	Supported	It needs to assign the externalId of user in CPQe to the internalId of employee in CFC.
EMPLOYEE_RESPONSIBLE_PARTY	User	Supported	It needs to assign the externalId of user in CPQe to the internalId of employee in CFC.
PRODUCT_RECIPIENT_PARTY	Not supported	Not supported	Not Supported
SALES_PARTNER_PARTY	Account	Not Supported	Could be a Business Partner in CFC
COMPETITOR_PARTY	Account	Not Supported	Could be a Business Partner in CFC
OTHER_PARTY	Account	Not Supported	Could be a Business Partner in CFC
SALES_UNIT_PARTY	Company	Not Supported	
SALES_TEAM_PARTY	Not supported	Not Supported	

The following setting is defined in application schema and is used to enable the synchronization of partners from imported quote.

```
<owl:NamedIndividual rdf:about="&as;SettingSyncPartnerQuoteEnabled">
   <rdf:type rdf:resource="&as;SettingBoolean"/>
   <rdfs:label rdf:datatype="&xsd;string">SettingSyncPartnerQuoteEnabled</rdfs:label>
   <ps:objectName rdf:datatype="&xsd;string">Enables synchronization of Partners for Quote import from
CRM</ps:objectName>
   <settingKey rdf:datatype="&xsd;string">setting.sync.partner.quote.enabled</settingKey>
</owl:NamedIndividual>
```

By default, the partners will not be synchronized. If you want to synchronize the partners by default, it is necessary to set the settingValue in customization or via admin screen.

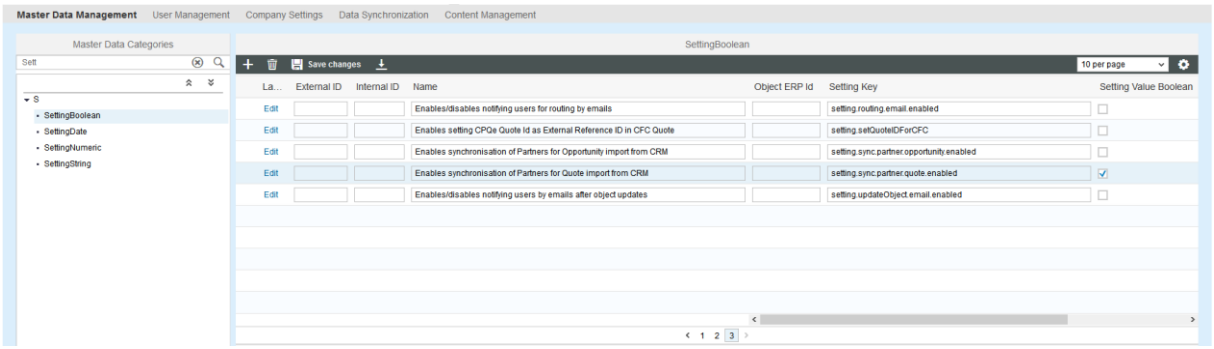


Figure 25 Enabling to import the associated partners of imported quote

```
    <rdf:Description rdf:about="&as; SettingSyncPartnerQuoteEnabled ">
        <as:settingValueBoolean rdf:datatype="&xsd;boolean">true</as:settingValueBoolean>
    </rdf:Description>
```

6 Export Quote to C4C

Exporting the quote back to CFC can be done for the following cases

- If the quote is created in CPQe from an account which was imported from CFC . This quote is called external quote.
- If the quote is created in CFC and imported to CPQe. This quote is called internal quote.

Based on the export-ability of quote depending on the external id of account associated with the quote, the export button to CFC will be shown. There are some settings that you can use to control the behavior of the export process. The details of all the CFC related settings are explained in Section 13.

In addition to the setting, a product can be marked not to export to CRM system by the following business data attribute of Product's attributes. Example use case will be to set those products created during the BOM explosion not to export to CFC.

- productExportToCRM

6.1 Exporting Attachments

Since 1604/8 release, the attachments will be exported to CFC immediately after the attachment was added in CPQ. This helps keep the system state in correct order and is more performant as well.

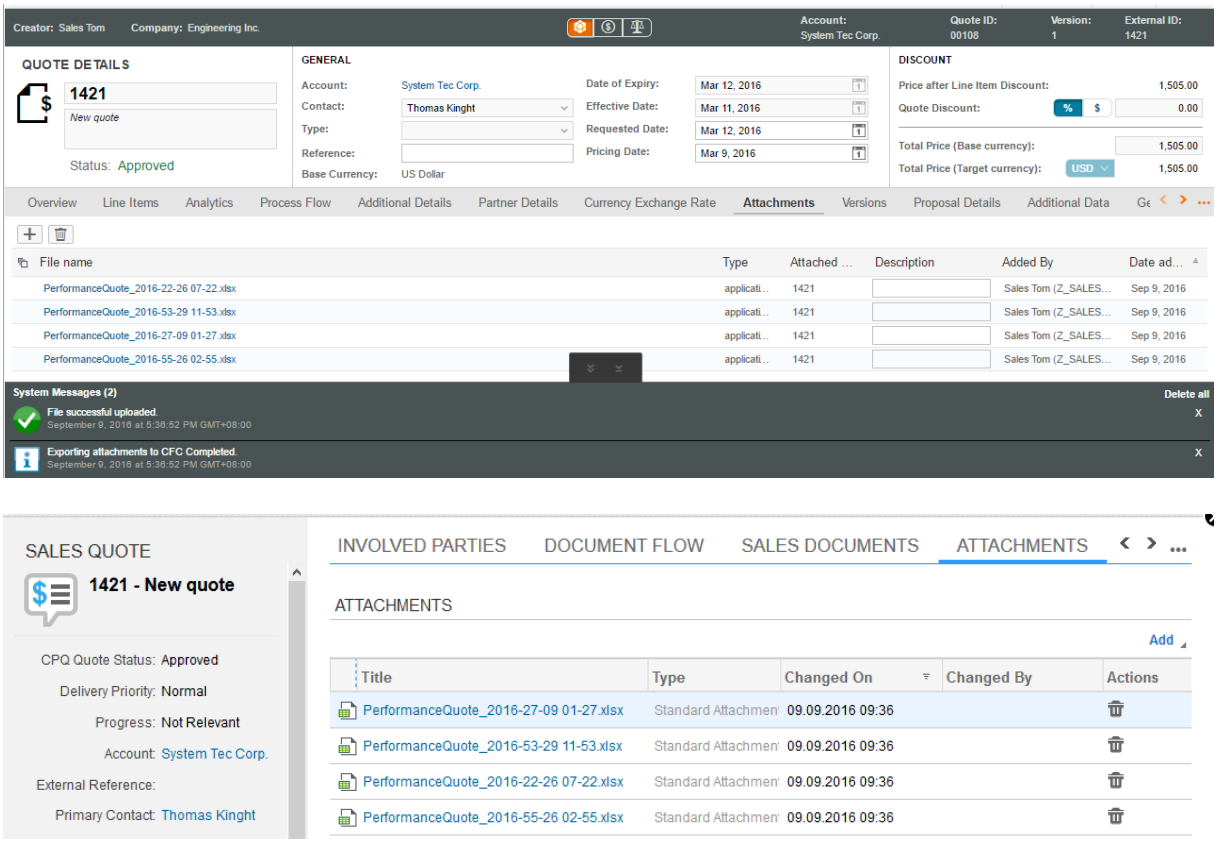


Figure 26 Exporting Attachments to CFC

6.2 Exporting Proposal PDF in Background

The proposal PDF will be exported in background as long as the quote in CFC is allowed to do so. It means the proposal PDF will be exported only when the quote in CPQ is OPEN/COMPLETED/APPROVED. Once the quote was accepted or rejected, the proposal PDF is not exported to CFC (as the user case does not exist).

6.3 Exceptions during Exporting Quote to C4C

6.3.1 Associated Account Not Found in C4C

- Notification
  - Export Failed: Quote does not have external account.
- Issue
  - The issue happened when the account assigned to quote does not have external id assigned.
- Solution
  - Check the account of the quote if it is allowed to synchronize with external system.

6.3.2 Quote without Base Currency

- Notification
  - Export failed: The base currency code not found.
- Issue
  - The issue happened when the quote does not have base currency.
- Solution
  - Check the base currency of the quote is properly assigned.

6.3.3 Base Currency Not Supported in C4C

- Notification
  - Export failed: The base currency code not supported in C4C.
- Issue
  - The issue happened when the currency assigned to quote is not supported in C4C.
- Solution
  - Check the currency codes between two systems are mapped correctly.

6.4 Warnings during Exporting Quote to C4C

6.4.1 Product Not Found in C4C

- Notification
  - `Product: XXX[###], is not available in target system.`
- Issue
  - This issue happened when the quote contained products having an ECC ID but which are not found in CFC.
- Solution

  - Please check with admin to maintain the same products model in two systems.

6.4.2 Product without ECC ID

- Notification
  - `Product: [XXX], does not have ECC ID maintained.`
- Issue
  - This issue happened when the quote contained products without ECC ID assigned inside the ISS.
- Solution
  - Please check with admin to maintain the ECC ID of the products in ISS.

6.4.3 Buyer ID Not Found in ISS

- Notification
  - Buyer ID is not found. Remark: It is the Quote ID in ISS which is used as External Quote ID in CFC.
- Issue
  - This issue happens when ISS failed to generate the Quote ID during the quote creation.
- Solution
  - Please consult with admin to check why quote id was not generated.

6.4.4 Buyer Party Not Found in ISS

- Notification
  - Buyer Party is not found.
- Issue
  - This issue happens when ISS failed to set the buyer party using the account id of the quote.
- Solution
  - Please consult with admin to check why it was failed to set buyer party.

6.4.5 Employee Responsible Party Not Found in ISS

- Notification
  - Employee responsible party not found.
- Issue
  - This issue happens when the current user does not have external id which is used to set the responsible party of exported quote.
- Solution
  - Please ask admin to assign the external id in ISS by using the employee id of responsible party in C4C.

6.4.6 Exporting New Quote to CFC

- Notification
  - External Quote ID is not found.

- Issue
    - This issue warn that the quote exported to C4C does not exist in C4C.

6.4.7 Product Not Found in CFC

- Notification
    - Product associated with the quote is not present in C4C system.
- Issue
    - This issue happened when the quote contained products which are not found in CFC
- Solution
    - Please check with admin to maintain the same products model in two systems.

6.5 How to Show Line Item Price in C4C (For External Quote)

In C4C, the line item price of the quote created inside ISS is maintained under adjusted item price and adjusted item value as shown in Figure 27 when the quote is exported to C4C.

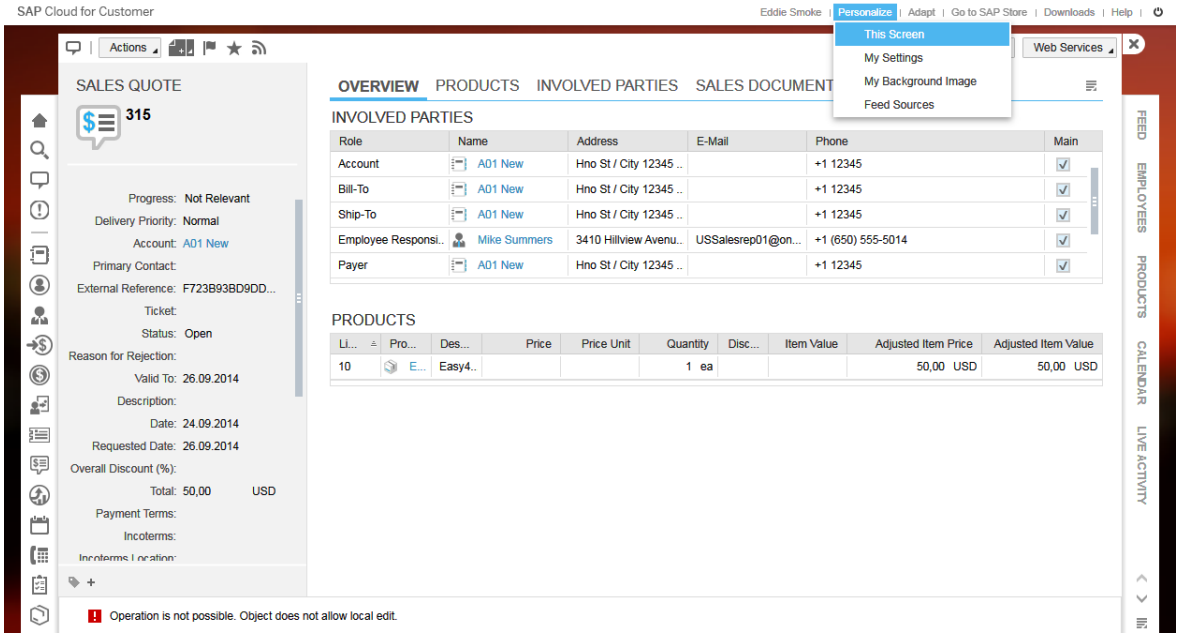


Figure **27** Showing Line Item Unit Price and Total Price in C4C

In order to show those two columns, Adjusted Item Price and Adjusted Item Value in CFC if you did not see. Please do the following steps.

- Select PRODUCTS tab
- Personalize the current screen as shown in Figure 27.
- Select the PRODUCTS in Screen Layout
- Check Adjusted Item Price and Adjusted Item value.

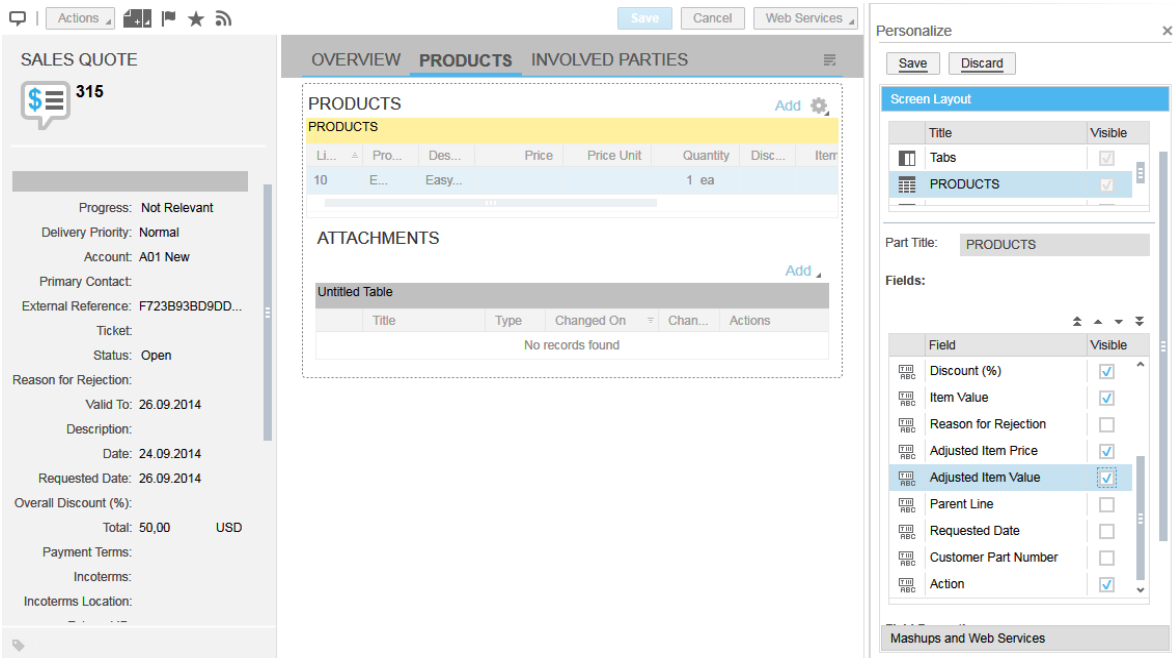


Figure **28** Showing the Adjusted Item Price and Adjusted Item Value in Product Table

7 Deactivating the Approval Flow in ISS

7.1 Enables the Quote Status Control in CPQ

Starting from 1604 release, the approval process can be disabled in ISS by using the following settings. It is also needed to remove the workItem-implementation.owl and workItem-rule.owl as the approval process will be done by the external system.

```
<rdf:Description rdf:about="&as; SettingQuoteStatusControlInIssEnabled">
    <as:settingValueBoolean rdf:datatype="&xsd;boolean">true</as:settingValueBoolean>
</rdf:Description>
```

In CFC, there are three statuses as shown in Table 6.

Table 6 Definition of Status Code in CFC

CFC Quote Status					
Customer Quote LifeCycle Status Code	Description	Customer Quote Result Status Code	Description	Approval Status Code	Description
1	OPEN	1	Not Relevant	1	Not Started
2	In Process	2	Pending	2	Approval Not Necessary
3	Completed	3	Won	3	In Approval
		4	Lost	4	Approved
				5	Rejected
				6	In Revision
				7	Withdrawn

By disabling the approval control in ISS, it means when ISS will use the following quote statuses returned from CFC and map it to the ISS SalesDocumentStatus according to the mapping table shown in Table 7.

- CustomerQuoteLifeCycleStatusCode
- CustomerQuoteResultStatusCode
- ApprovalStatusCode

7.2 Defining the UI profile

In addition to that, the following UI elements are to hide using the Feature Based UI Profile as shown below.

```
<owl:NamedIndividual rdf:about="&uii;UI_APP_DEFAULT_QUOTE">
  <rdf:type rdf:resource="&as;UiProfile"/>
  <ps:objectName rdf:datatype="&xsd;string">HIDE FEATURE WISE UI ( QUOTE )</ps:objectName>
  <!--STATUS-->
  <as:uiProfileHide rdf:datatype="&xsd;string">id_quote_button_action_submit</as:uiProfileHide>
  <as:uiProfileHide rdf:datatype="&xsd;string">id_quote_button_action_withdraw</as:uiProfileHide>
  <as:uiProfileHide rdf:datatype="&xsd;string">id_quote_button_action_accepted</as:uiProfileHide>
  <as:uiProfileHide rdf:datatype="&xsd;string">id_quote_button_action_rejected</as:uiProfileHide>
</owl:NamedIndividual>
```

7.3 Understanding the Mapping of status between CFC and CPQ

Having an approval process in external system means the CFC quote status will be imported from CFC and map it to the CPQe sales document status and export the CPQ quote status as custom field to the CFC. The steps to add the custom field, **CPQQuoteStatus** are explained in section 10.1.1. **Error! Reference source not found.** shows the mapping between the CFC quote statuses (Status, Progress and Approval) and the CPQ sales document status.

Table 7 Mapping Table between CFC Statuses and CPQ Status

CFC Quote Status						CPQ SalesDocumentStatus	
CustomerQuoteLifeCycleStatusCode	Description	CustomerQuoteResultStatusCode	Description	ApprovalStatusCode	Description		
1	OPEN	1	Not Relevant	1	Not Started		
2	In Process	2	Pending	2	Approval Not Necessary		
3	Completed	3	Won	3	In Approval		
		4	Lost	4	Approved		
				5	Rejected		
				6	In Revision		
				7	Withdrawn		
CustomerQuoteLifeCycleStatusCode CFC Status		**CustomerQuoteResultStatusCode CFC Progress**		**ApprovalStatusCode C4C approval**		**CPQ status**	**External Id**
Open (1)		Not relevant (1)		Not approved (1)		Open	1-1-1
Open (1)		Not relevant (1)		In Revision (6)		Open	1-1-6
Open (1)		Not relevant (1)		In approval (3)		Completed	1-1-3
Open (1)		Pending (2)		Not Started (1)		Completed	1-2-1
Open (1)		Not relevant (1)		Approved (4)		Approved	1-1-4
Open (1)		Pending (2)		Approved (4)		Approved	1-2-4
Completed (3)		Pending (2)		Approved (4)		Approved	3-2-4
Completed (3)		Won (3)		Approved (4)		Accepted	3-3-4
Completed (3)		Lost (4)		Not Started (1) / Approved (4)		Rejected	3-4-1

It is important to note that the quote should have enabled the approval process in CFC so that the response from the web service could return the approval code. Otherwise, the CPQe quote status will always become COMPLETED as no mapping is found.

8 Master Data from CFC

Some of the limited master data can be synchronized with CFC system using the administration screen. Currently the following master data can be synchronized with languages based on the languages defined.

- Country
- Industry
- Distribution Channel
- Unit of Measurement
- Currency
- Gender
- Title
- Payment Terms
- Inco Terms
- Sales Document Type
- Language

If you just wanted to synchronize the master data with limited language (example English, German, Chinese), it is better to manually define the language without synchronizing from external system. If you synchronized the languages first and then synchronized other master data, it will create the master data with languages synchronized before.

When you do the synchronization, it will first check the existing code with same external id. If there is no external id assigned to the existing code, there can be duplicate code name after synchronization. Therefore, it is recommended to check the external id of the existing code to assign if necessary before synchronization of particular master data.

8.1 Sales Organization

The sales organization has to be defined manually and define the objectExternalId and objectERPId correctly before the system starts.

- objectExternalId
    - This id should be obtained from Sales Organisation ID from the CFC and is used when CPQe import the quote from CFC.
- objectERPId
    - This id should be obtained from id assigned in external ERP system and is used when CPQe export the quote to ERP.

8.2 Exceptions during Synchronization of Master Data

8.2.1 External System Not Found in ISS

- Notification
    - Synchronization not possible. No external system is not specified.
- Issue
    - This issue will happen if the account needs to be synchronized as it was already imported into ISS and ISS was not able to find the external setting.

- Solution
    - Please define the external system (such as C4C or SFDC) to be synchronized from as shown in **Error! Reference source not found.**.

8.3 Warnings during Synchronization of Master Data

8.3.1 Duplicate Master Data Found in C4C

- Notification
    - Duplicate code id found in master data of external system.
- Issue
    - This issue will happen if ISS detected that there are duplicated master data code with same code in C4C.
- Solution
    - If this happens, the ISS will ignore the duplicated master data.

9 How to renew the existing CFC Certificate

It is important to check the certificate of web services in CFC used in ISS regularly. Currently, ISS needs the following two certificates to be installed inside the keystore folder of CMIS in order to import, export and synchronize the Account, Opportunity and Quote.

- Query_Opportunity_Imported.pfx
  - This is used to import Account, Opportunity and Quote from ISS.
- Manage_Quote_Imported.pfx
  - This is used to export the quote back to the C4C from ISS.

The following will explain how to generate the above certificate from C4C.

9.1 Getting New Certificate to Export Account, Opportunity, Quote from CFC

9.1.1 Checking the Existing Certificate

- Log in as Administrator role
- Select the Administrator Tab
- Select the Communication Arrangement
- Select [**Query Opportunities]** as shown in Figure 29
- Click **[Edit]** to see the screen as shown in Figure 30

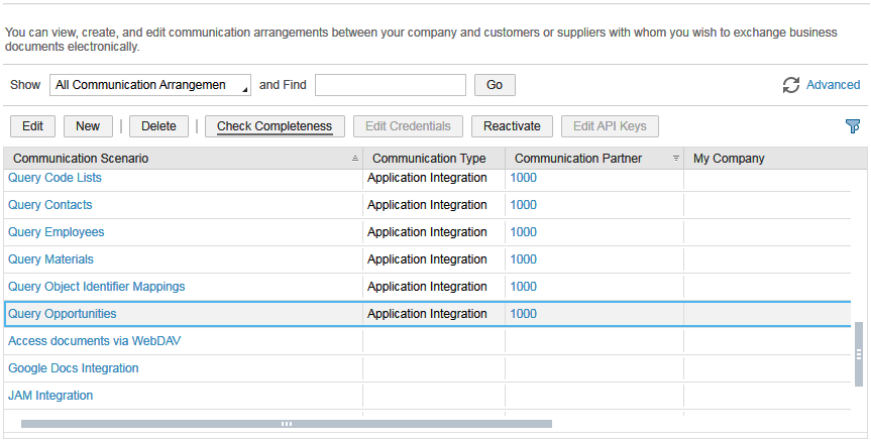


Figure **29** Selecting the Query Opportunities Communication Scenario

- Click **[Edit Credentials]** to see the screen as shown in Figure 31.

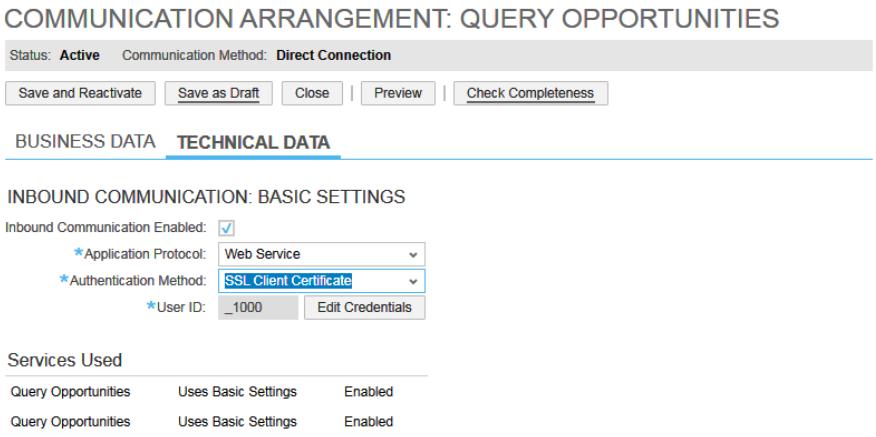


Figure **30** Editing the Technical Data for Query Opportunities

- Click **[Certificate]** to see the screen as shown in Figure 31 where you can check the expiry date of the existing certificate.

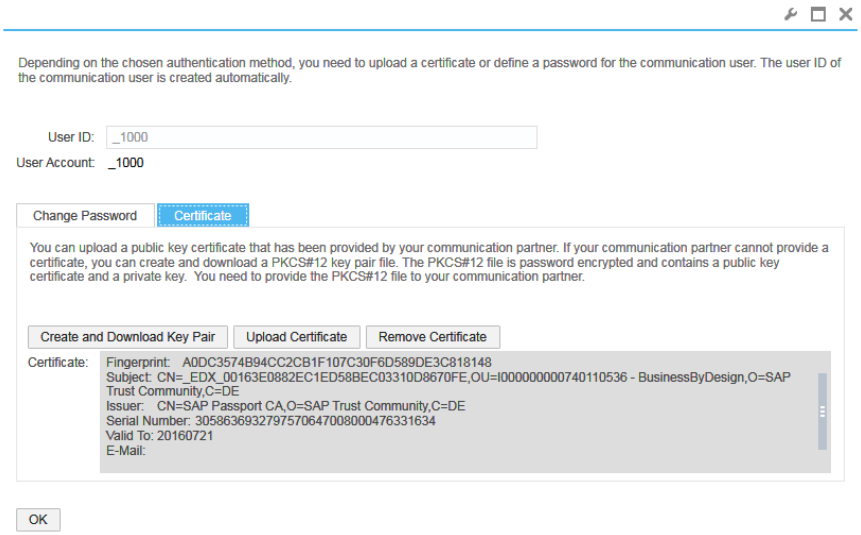


Figure **31** Checking the Existing Certificate of Query Opportunities

9.1.2 Removing the Existing Certificate

If the certificate is about to expire, it is necessary to renew the certificate and install it inside the keystore folder under CMIS. Before renewing the existing certificate, remove the existing one as shown in Figure 32.

- Do the same step as mention in section 9.1.1.
- Click **[Remove Certificate]** tab

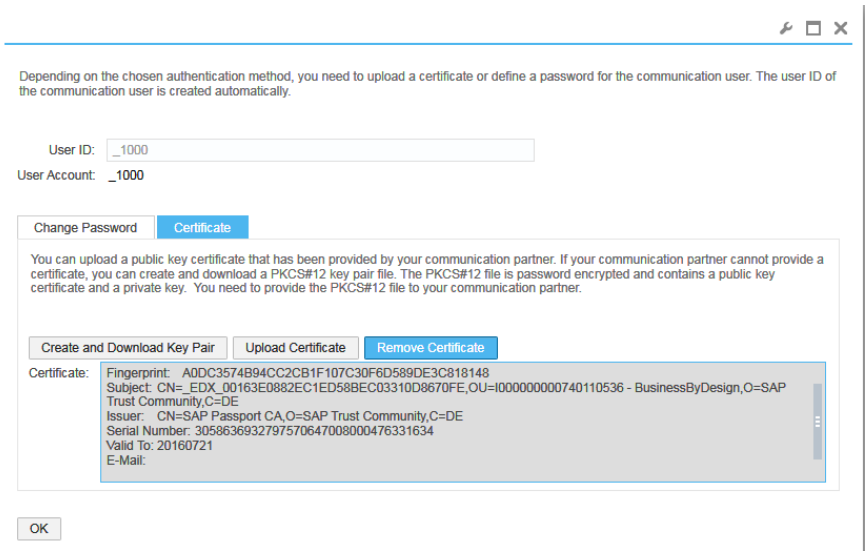


Figure **32** Removing the Existing Certificate

9.1.3 Create and Download new Key Pair Certificate from C4C

- Once you have removed the existing certificate, you can now create new certificate with renewed expiry date where you can create the new raw keystore file (example Query_Opportunity_Imported.pfx)
- Click **[Create and Download Key Pair]** to get the new certificate with new expiry date as shown in Figure 32.
- You will be asked to enter the password, enter the password, mentioned in **[application.properties]** inside the **[conf]** folder of CMIS.
- When you obtained the Query_Opportunity_Imported.pfx, you need a **Portecle version 1.9** tool to change the raw certificate into certificate that ISS can use.
- Click OK
- Click Save and Reactive

9.1.4 Downloading the necessary tool

The *.pfx certificate downloaded from C4C is not directly usable by the ISS. Therefore, it needs to do the following transformation.

- Portecle
    - Download Portecle from http://sourceforge.net/projects/portecle/
    - Before opening the portecle.jar, make sure that you have the local_policy.jar and US_export_policy.jar in security folder of you jre7 folder in your computer.

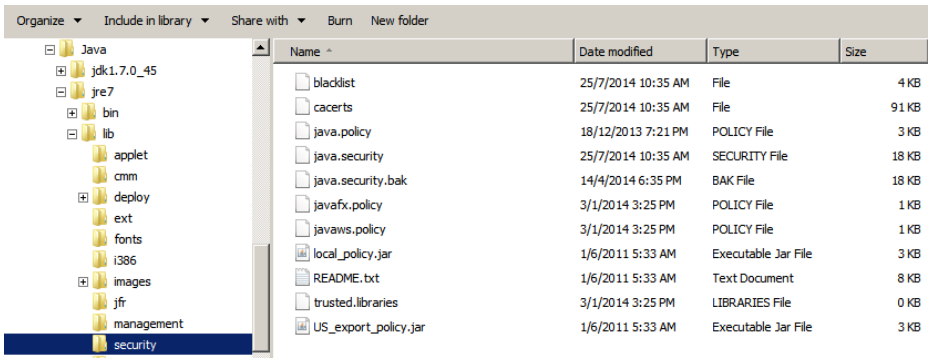


Figure 33 Security Folder of JRE Folder

- Java Cryptography Extension (JCE) Unlimited Strength Jurisdiction Policy Files 7
    - If you are not able to find the required files in the security folder of the jre7/lib, you need to download the Java Cryptography Extension (JCE) Unlimited Strength Jurisdiction Policy Files 7 from http://www.oracle.com/technetwork/java/javase/downloads/jce-7-download-432124.html.
    - Unzip it and put the extracted files under security folder as shown in Figure 33.

9.1.5 Converting a downloaded keystore file for ISS Usage

- Open the protecle.jar and click Open Keystore File under File menu.

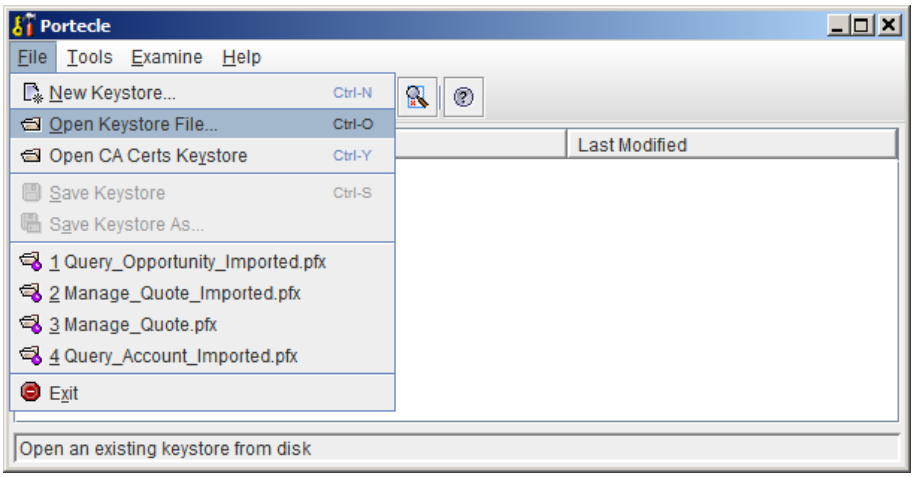


Figure 34 Importing the raw keystore file (Query_Opportunity_Imported.pfx)

- Import the Query_Opportunity_Imported.pfx
- Enter the password that you defined in section 9.1.3.

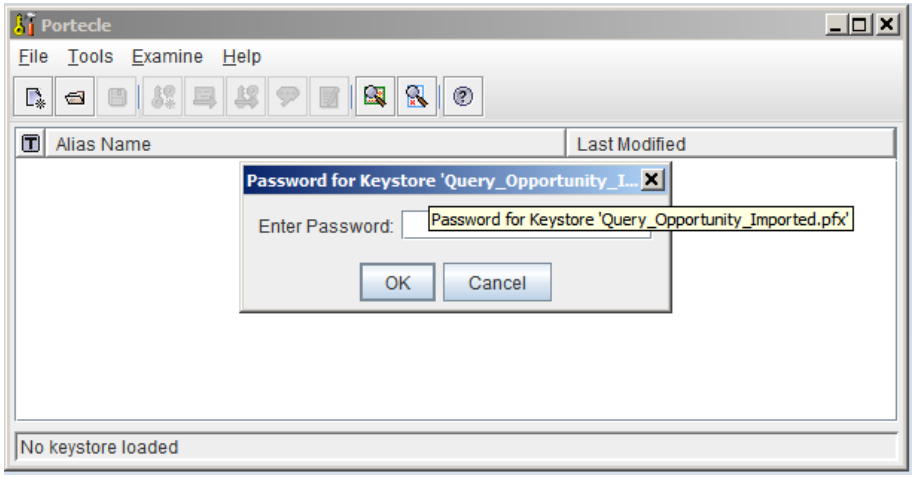


Figure 35 Selecting the Query_Opportunity_Imported.pfx

- Set the alias name for the raw key store file as shown in Figure 36
- Right click on the keystore file and Click Export as shown in Figure 37.

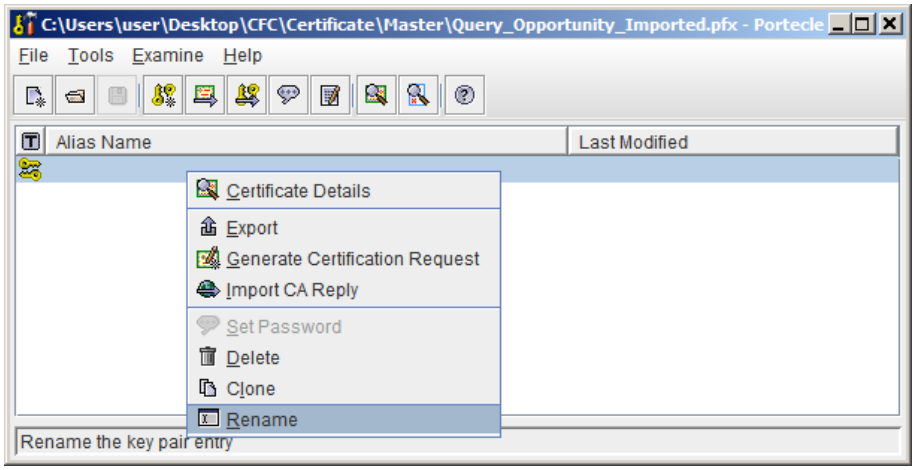


Figure 36 Setting Alias Name for Raw Keystore File

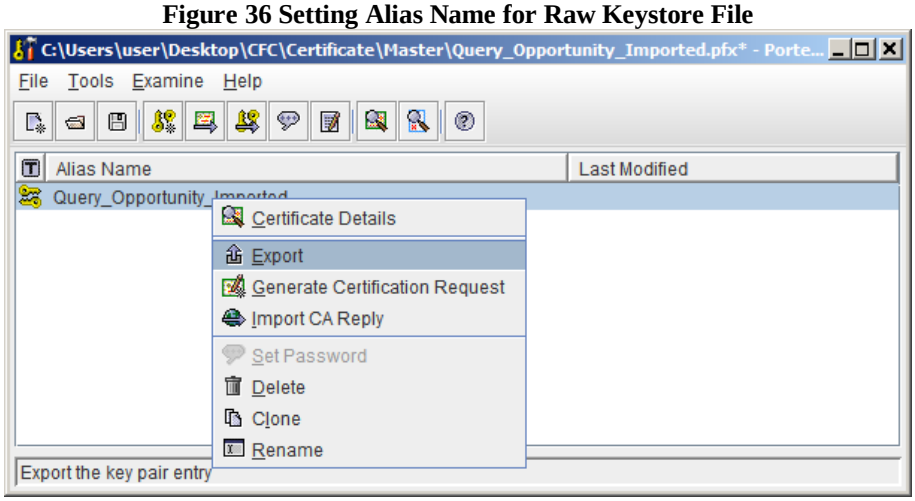


Figure 37 Exporting the raw keystore file

- Select the Private key and Certificates
- Click OK
- You will be asked to enter the password which is to be same as you defined in section 9.1.3.

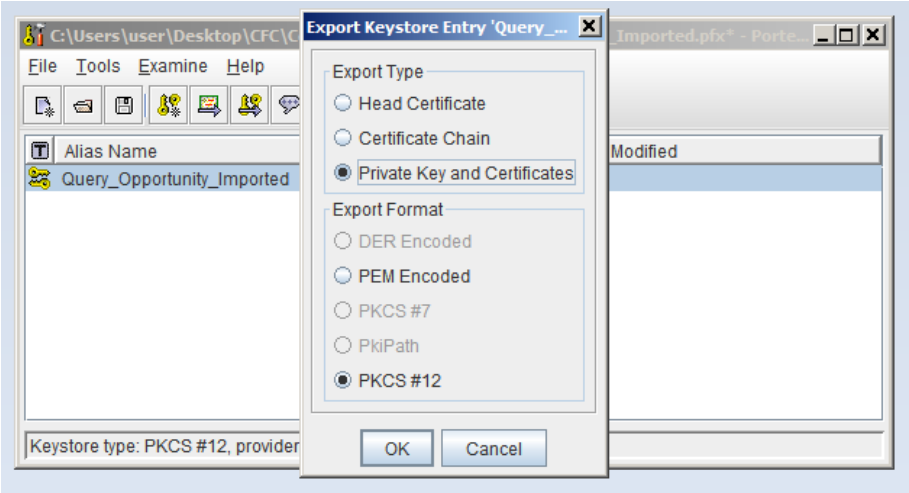


Figure 38 Converting raw Keystore file into Private Key and Certificates type with PKCS #12

- Replace the file as shown in Figure 39.

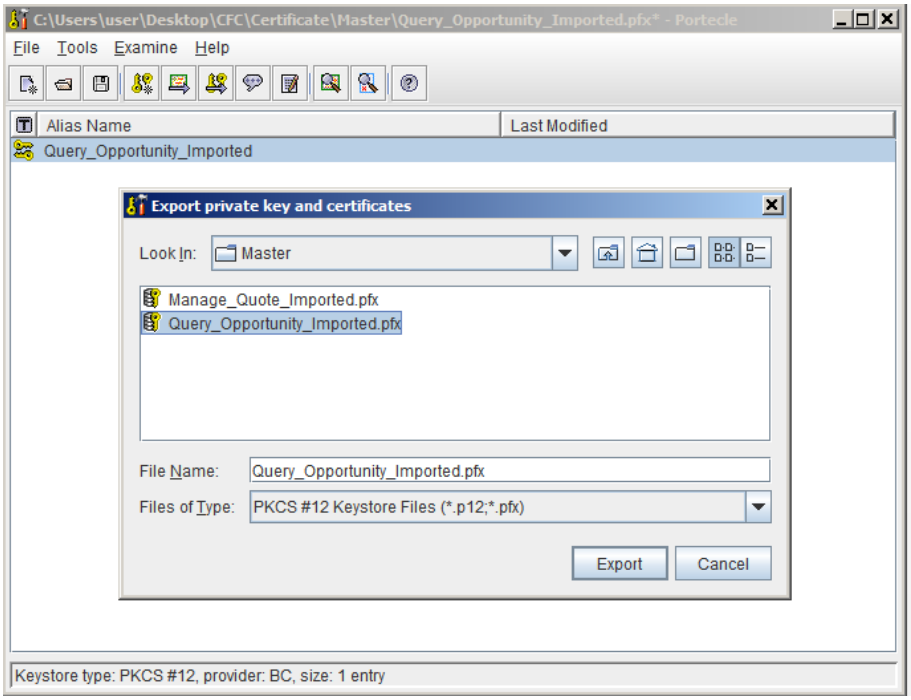


Figure 39 Replacing the Query_Opportunity_Imported.pfx with exported file

- Once you have new keystore file containing private key and certificates, you can upload the new certificate into keystore folder of CMIS using the Administration tab via admin role.

9.2 Getting the New Certificate to Export Quote from ISS

9.2.1 Checking the Existing Certificate

The steps to check the existing certificate to export Quote from ISS are almost same as mentioned in section 9.1, except that you need to select the Sales Quote Integration as a communication scenario and save the raw key store file as **[Manage_Quote_Imported.pfx]** in step mentioned in section 9.1.3.

- Log in as Administrator role

- Select the Administrator Tab
- Select the Communication Arrangement
- Select Sales Quote Integration as a communication scenario.
- Click **[Edit Credentials]** to see the screen as shown in Figure 41.

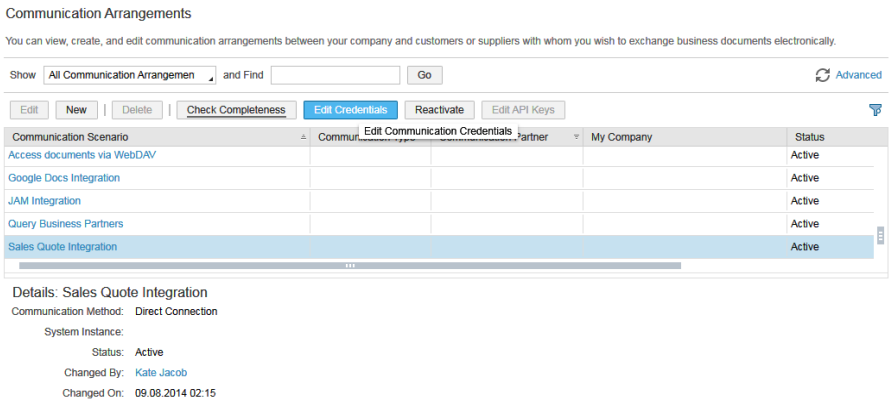


Figure **40** Selecting Sales Quote Integration Communication Scenario to Export Quote from ISS

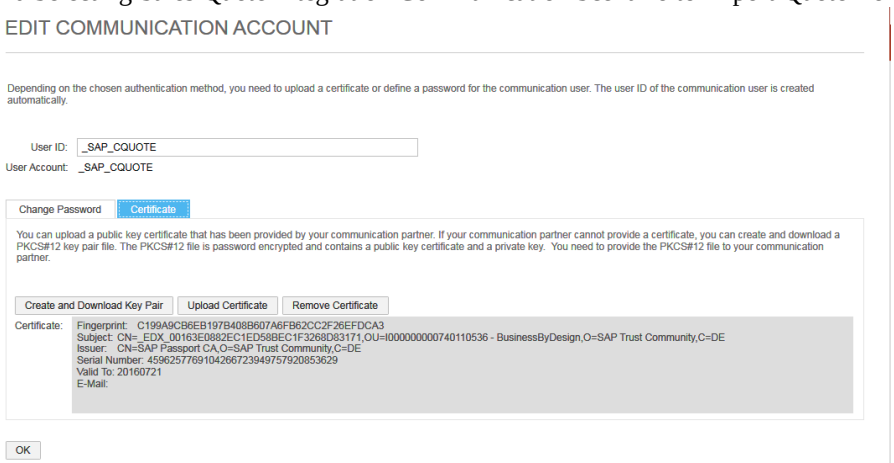


Figure **41** Checking Certificate to Export Quote from ISS

- Click **[Certificate]** tab to check the expiry date of existing certificate.

9.2.2 Removing the Existing Certificate

Please refer to the similar step as mentioned in section 9.1.2.

9.2.3 Create and Download new Key Pair Certificate from C4C

Please refer to the similar step as mentioned in section 9.1.2 with the following changes.

- Save the file name as [**Manage_Quote_Imported.pfx]**

9.2.4 Downloading the necessary tool

Please refer to the similar step as mentioned in section 9.1.3.

9.2.5 Converting a downloaded keystore file for ISS Usage

Please refer to the similar step as mentioned in section 9.1.5 with the following changes.

- Import the [**Manage_Quote_Imported.pfx]** instead of Query_Opportunity_Imported.pfx
- Replace the file as shown in Figure 42 when you export.

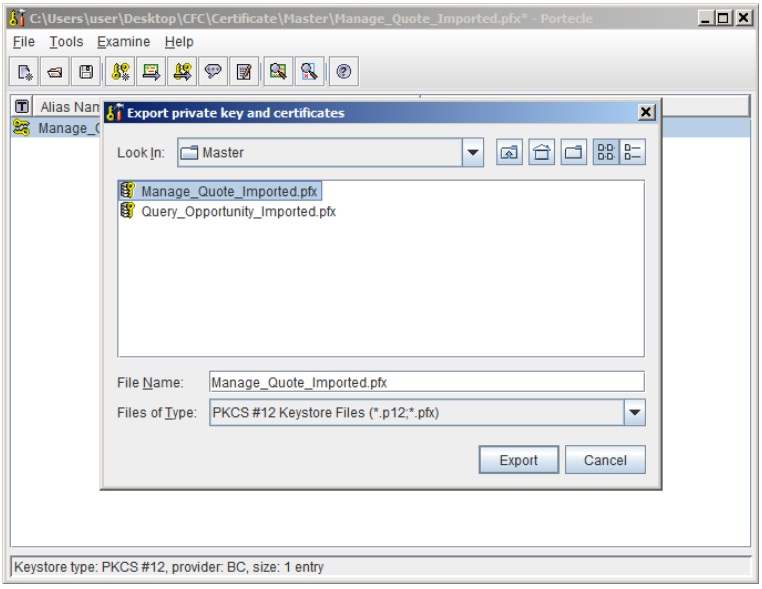


Figure **42** Replacing the Manage_Quote_Imported.pfx with exported file

10 How to add extension fields and create wsdl that includes these field

In 1602, the following custom fields are customized in CFC and enable them to include in the web services.

- CPQQuoteStatus
- CPQQuoteDiscount
- CPQSalesItemDiscount

In order to add the extension field, you have to be in adaptation mode. Please follow the steps below to change into adaptation mode.

- Open one quote
- Click Enter Adaptation Mode under Adapt menu
- One adaptation mode is on, click edit screen

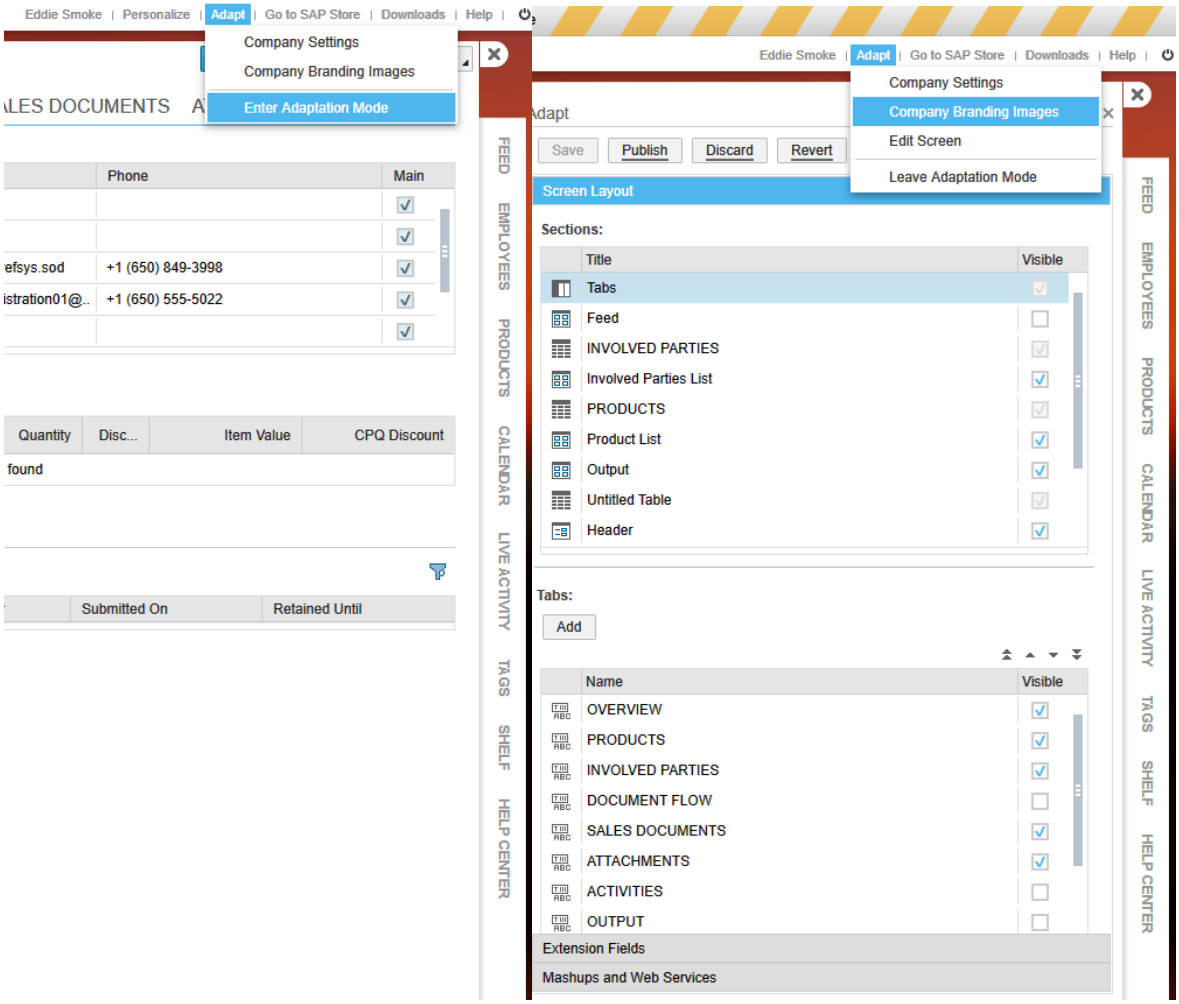


Figure 43 Adaptation Mode

10.1 Adding extension field to header

Once you in adaptation mode as shown in Figure 43,

- Click Extension Fields under Screen Layout
- Click Header as shown in Figure 44

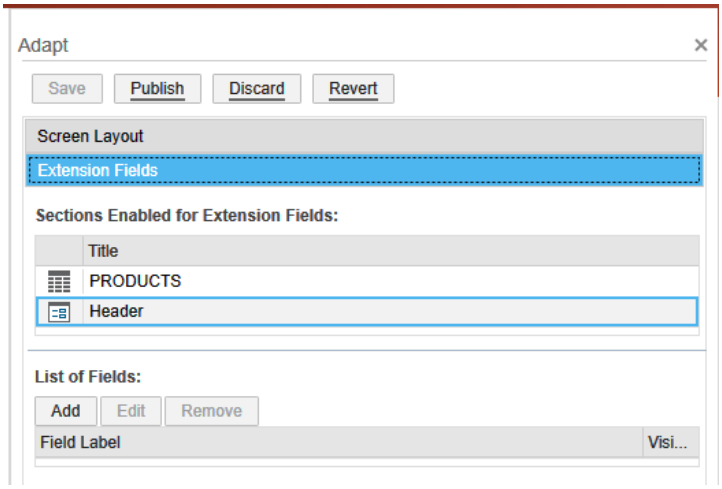


Figure 44 Extension Fields for Header

10.1.1 Adding CPQQuoteStatus Field

- Click Header under Sections Enabled for Extension Fields as shown in Figure 44.
- Click Add under **List of Fields**
- Enter the data as shown in Figure 45
- Click Save

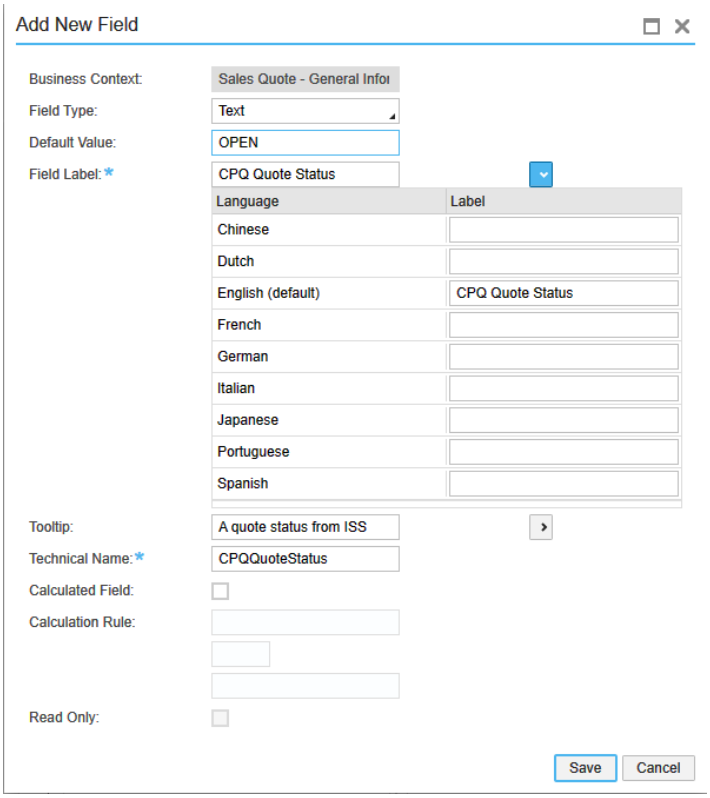


Figure 45 Adding a CPQQuoteStatus Field

10.1.2 Adding CPQQuoteDiscount Field

- Click Header under Sections Enabled for Extension Fields as shown in Figure 44.
- Click Add under List of Fields
- Enter the data as shown in Figure 46
- Click Save

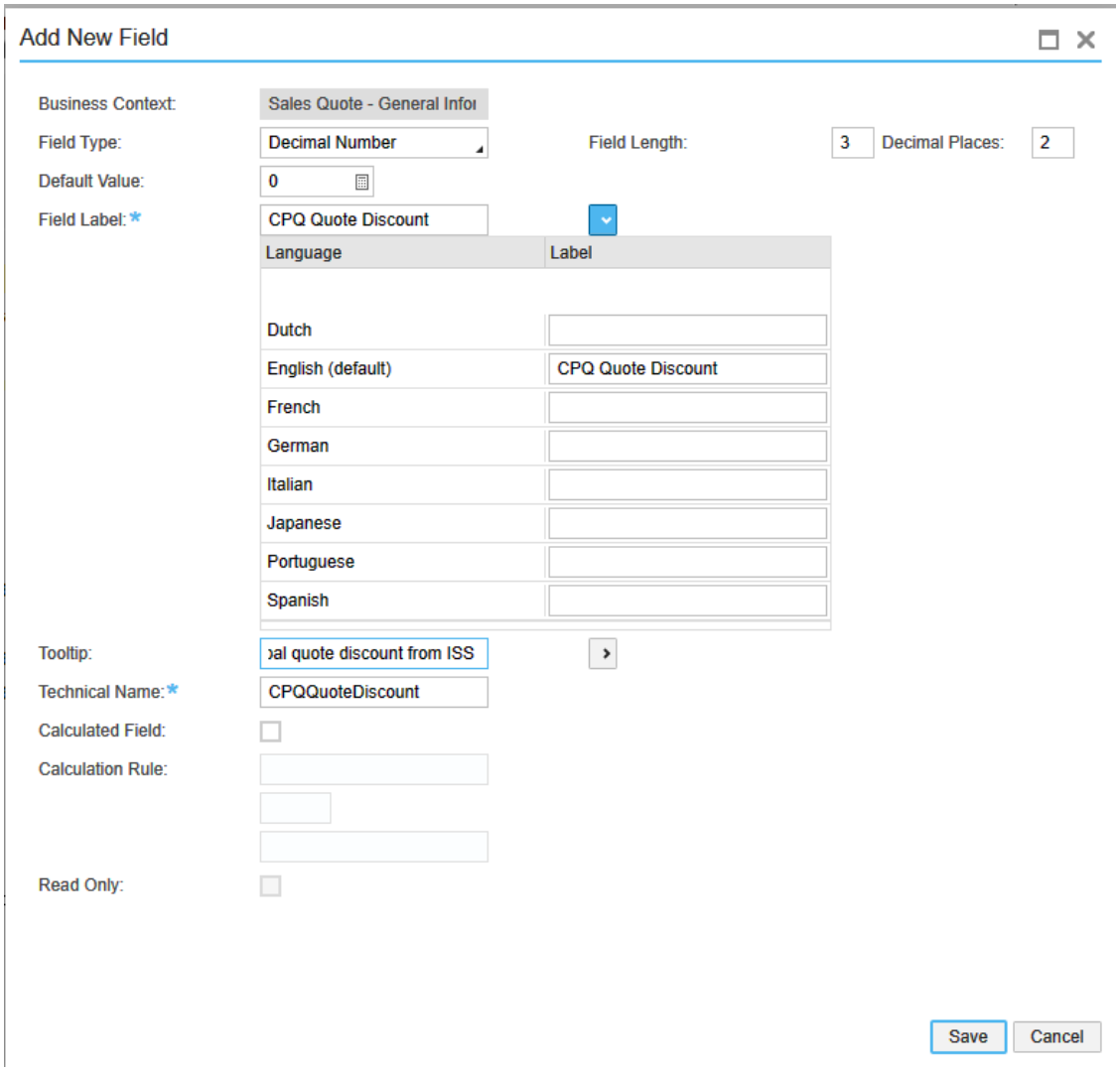


Figure 46 Adding a CPQQuoteDiscount Field

10.2 Adding extension field to products

Once you in adaptation mode as shown in Figure 43,

- Click Extension Fields under Screen Layout
- Click PRODUCTS

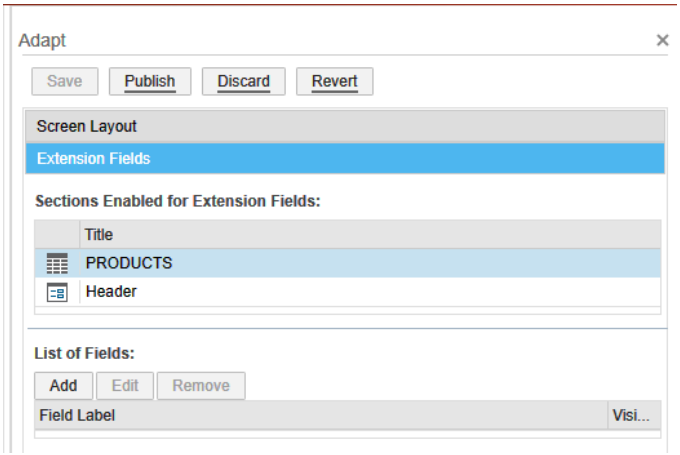


Figure 47 Extension Fields for Products

10.2.1 Adding CPQSalesItemDiscount Field

- Click Product under Sections Enabled for Extension Fields
- Click Add under List of Fields
- Enter the data as shown in Figure 48
- Click Save

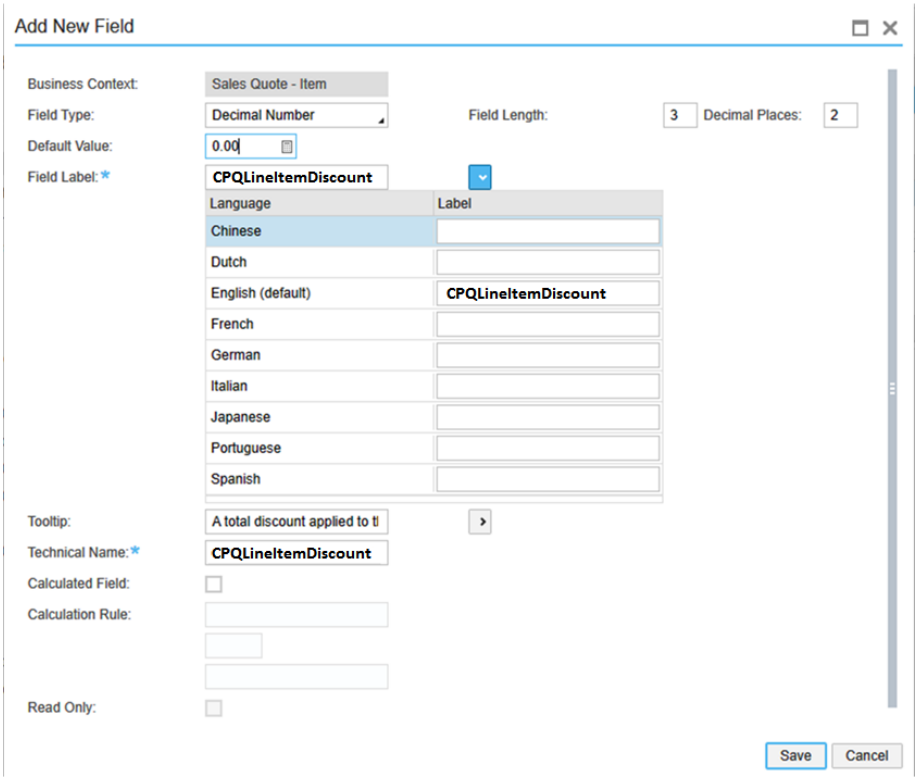


Figure 48 Adding CPQSalesItemDiscount Field

10.3 Publishing the Extension Fields and WSDL

- Click Publish to add the newly defined extension fields into CFC as shown in

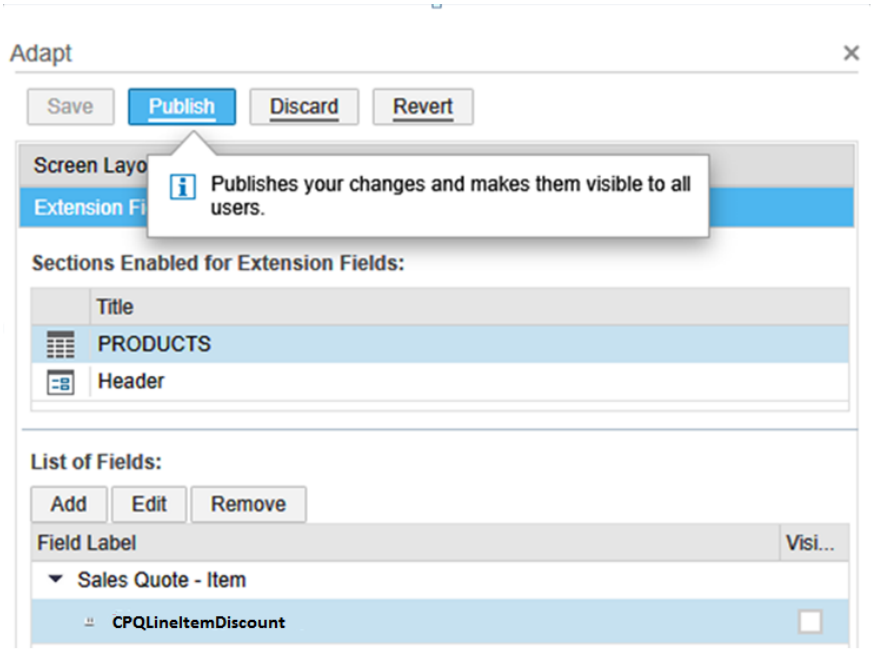
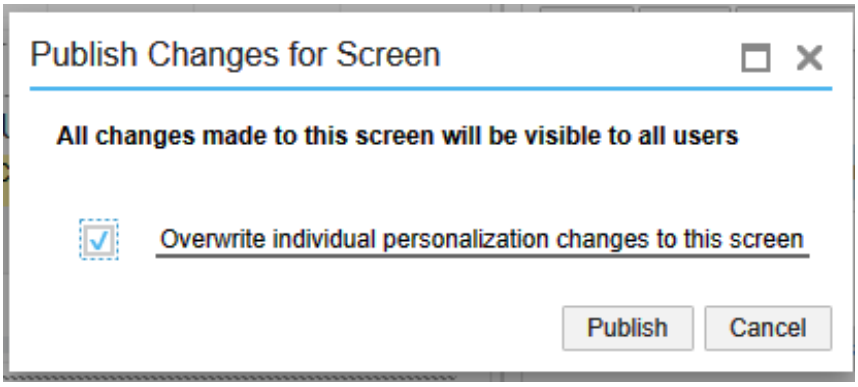


Figure 49 Publishing the Extension Fields

- Tick the Overwrite individual personalization changes to this screen



10.4 Showing the Extension Fields in UI

10.4.1 Displaying the Extension Fields in Header

Once you in adaptation mode as shown in Figure 43,

- Click Extension Fields
- Click Header as shown in Figure 44
- Under the List of Fields
    - Set CPQ Quote Discount's visible property to be true
    - Set Quote Status's visible property to be true

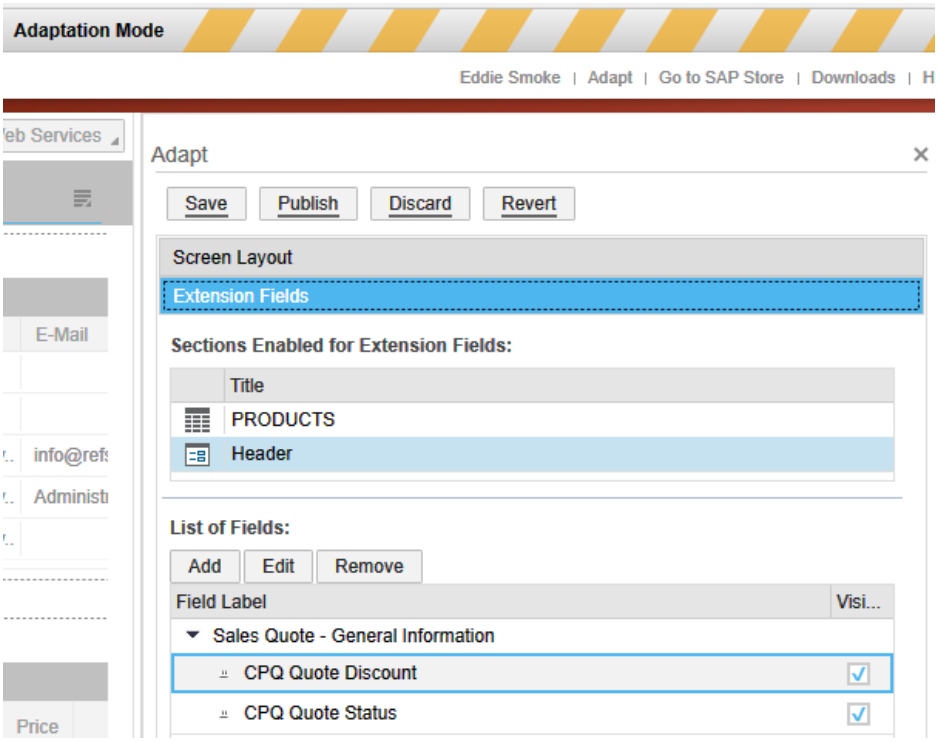


Figure 50 Displaying the Extension Fields in Header

10.4.2 Displaying the Extension Fields in Products

Once you in adaptation mode as shown in Figure 43,

- Click Extension Fields
- Click PRODUCTS as shown in Figure 44
- Under the List of Fields
    - Set CPQSalesItemDiscount's visible property to be true

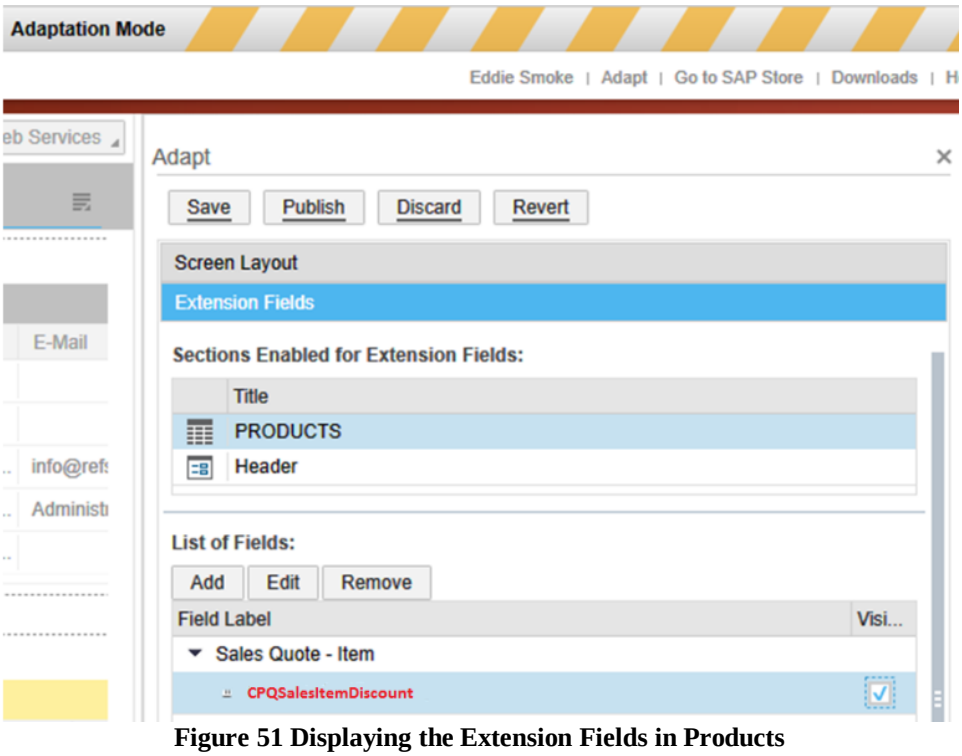


Figure 51 Displaying the Extension Fields in Products

10.4.3 Hiding the Unused fields in CFC

Since ISS will export the CPQQuoteDiscount and CPQQuoteStatus, it may be necessary to hide the similar fields provided by CFC depending on customer's requirements.
Once you in adaptation mode as shown in Figure 43,

- Click the Screen Layout
- Click Header
- Uncheck the following fields
    - Status Related Fields in CFC (Handled by Setting BO)
        - Progress
        - Status
        - Reason for Rejection
    - Quote Disc Related Fields in CFC
        - Overall Discount

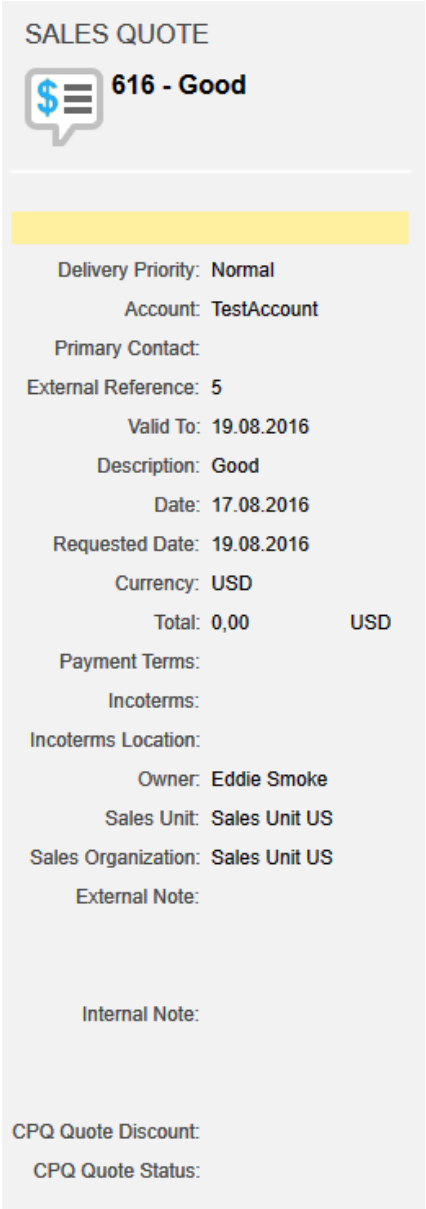


Figure 52 Quote Header UI with Extension Fields

10.5 Adding the extension fields to be included in web service

Once the new extension fields are added to UI, it still needs to add those new extension fields to be included in web service responses.

10.5.1 Configuring the further usage of CPQQuoteStatus

Once you in adaptation mode as shown in Figure 43,

- Click Extension Fields
- Click Header as shown in Figure 44
- Under the List of Fields
    - Select CPQ Quote Status as shown Figure 53
    - Click Further Usage

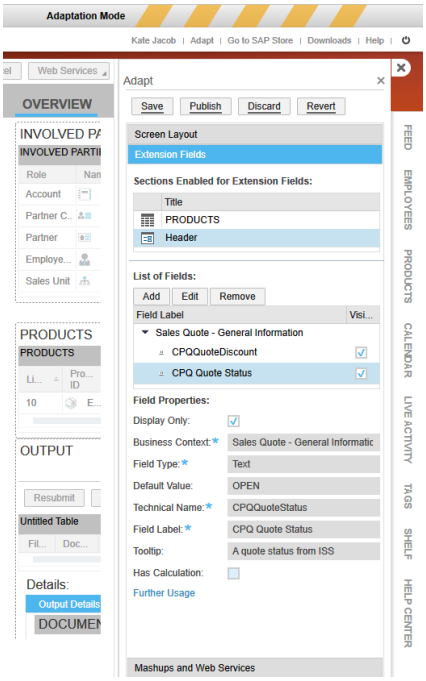


Figure 53 Adding CPQQuoteStatus to Web Service

- Click Further Usage to open the Further Usage of Extension Field as shown in Figure 54
- Check field available to those field name CPQQuoteStatus

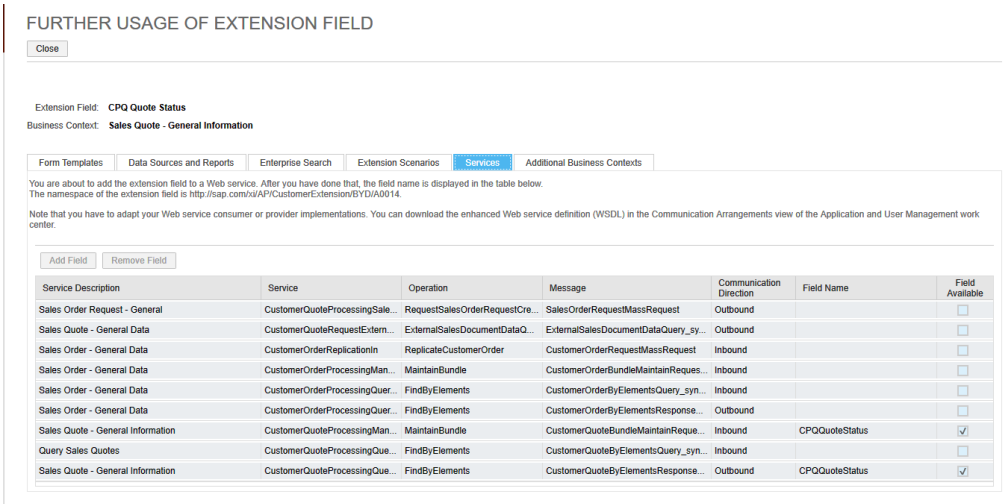


Figure 54 Configuring the Further Usage of CPQQuoteStatus

10.5.2 Configuring the further usage of CPQQuoteDiscount

Once you in adaptation mode as shown in Figure 43,

- Click Extension Fields
- Click Header as shown in Figure 44
- Under the List of Fields
    - Select CPQ Quote Discount shown in Figure 55
    - Click Further Usage

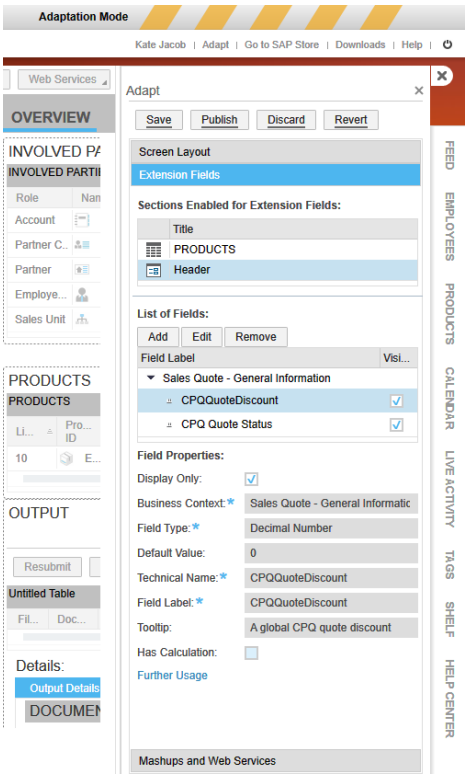


Figure 55 Adding CPQQuoteDiscount to Web Service

- Click Further Usage to open the Further Usage of Extension Field as shown in Figure 56.
- Check field available to those field name CPQQuoteDiscount .

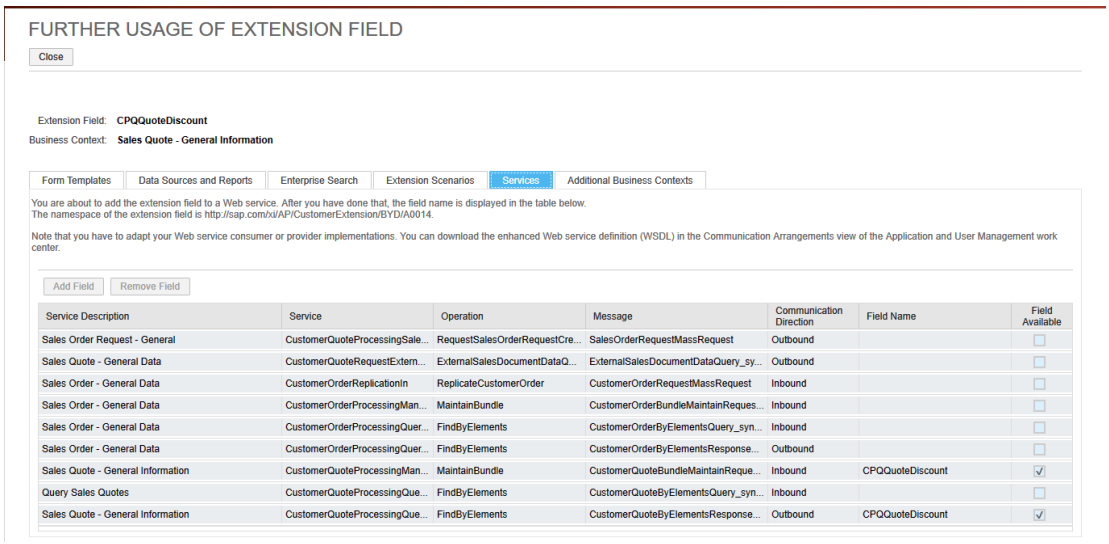


Figure 56 Configuring the Further Usage of CPQQuoteDiscount

10.5.3 Configuring the further usage of CPQSalesItemDiscount

Once you in adaptation mode as shown in Figure 43,

- Click Extension Fields
- Click Header as shown in Figure 44
- Under the List of Fields
    - Select CPQ Line Item Discount shown Figure 57
    - Click Further Usage

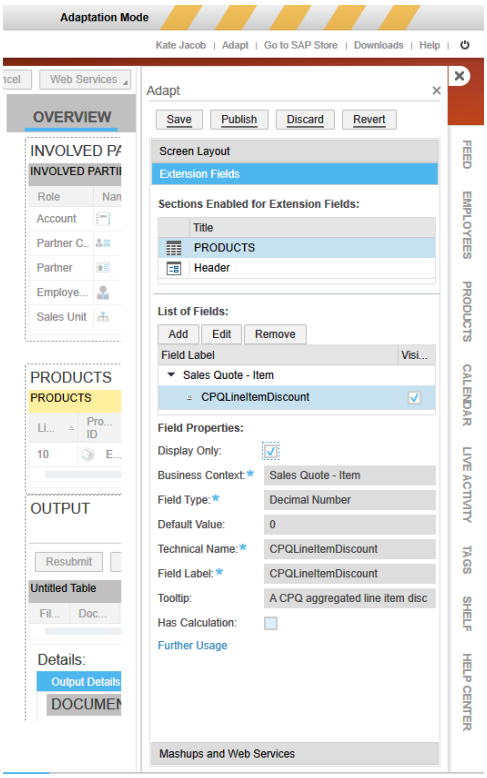


Figure 57 Adding CPQSalesItemDiscount to Web Service

- Click Further Usage to open the Further Usage of Extension Field as shown in Figure 58.
- Check field available to those field name CPQSalesItemDiscount

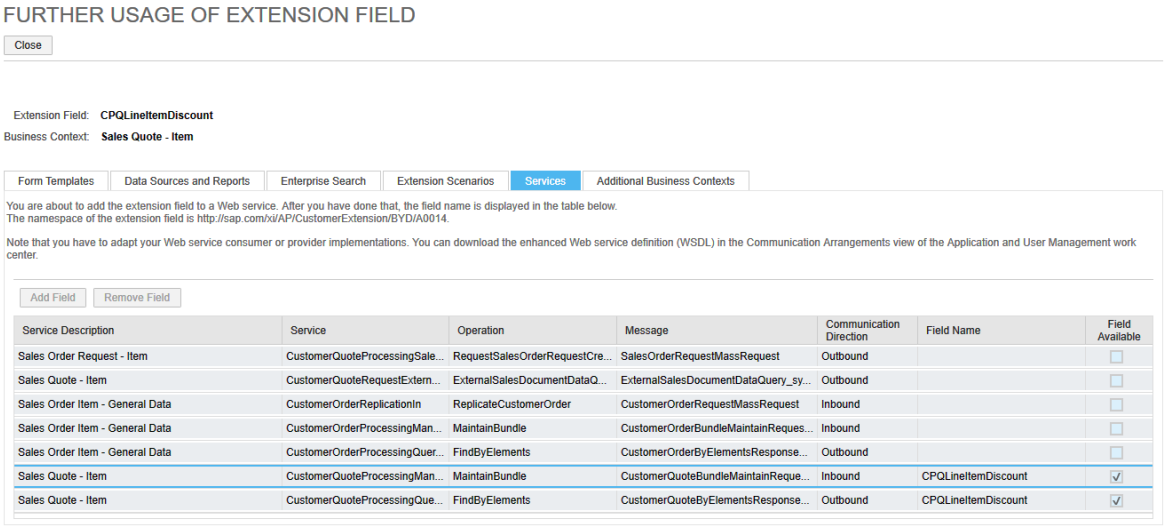


Figure 58 Configuring the Further Usage of CPQSalesItemDiscount

10.6 Adding the mapping to extension fields

In order to map extension fields in CFC into ISS, the following three new calculated BDAs are added with default SPARQL.

- cpqQuoteStatus
- cpqQuoteDiscount
- cpqSalesItemDiscount

```
    <!-- http://www.inmindcomputing.com/application/application-schema.owl#cpqQuoteDiscount -->

    <owl:DatatypeProperty rdf:about="&as;cpqQuoteDiscount">
        <rdf:type rdf:resource="&owl;FunctionalProperty"/>
        <rdfs:label rdf:datatype="&xsd;string">CPQ Quote Discount</rdfs:label>
        <ps:sparqlDefault>SELECT ?subject (?discount as ?cpqQuoteDiscount) WHERE {
    ?subject rdf:type as:Quote.
    ?subject as:includesDocumentHeaderPriceItem ?price .
    ?price as:documentHeaderDiscount ?discount
}</ps:sparqlDefault>
        <rdfs:domain rdf:resource="&as;SalesDocument"/>
        <rdfs:subPropertyOf rdf:resource="&ps;assertion"/>
        <rdfs:subPropertyOf rdf:resource="&ps;calculation"/>
        <rdfs:subPropertyOf rdf:resource="&ps;materialization"/>
        <rdfs:range rdf:resource="&xsd;decimal"/>
    </owl:DatatypeProperty>


    <!-- http://www.inmindcomputing.com/application/application-schema.owl#cpqQuoteStatus -->

    <owl:DatatypeProperty rdf:about="&as;cpqQuoteStatus">
        <rdf:type rdf:resource="&owl;FunctionalProperty"/>
        <rdfs:label rdf:datatype="&xsd;string">CPQ Quote Status</rdfs:label>
        <ps:sparqlDefault>SELECT ?subject ?cpqQuoteStatus WHERE {
    ?subject rdf:type as:Quote.
    ?subject as:hasSalesDocumentStatus ?status.
    ?status ps:objectName ?cpqQuoteStatus
} </ps:sparqlDefault>
        <rdfs:domain rdf:resource="&as;SalesDocument"/>
        <rdfs:subPropertyOf rdf:resource="&ps;assertion"/>
        <rdfs:subPropertyOf rdf:resource="&ps;calculation"/>
        <rdfs:subPropertyOf rdf:resource="&ps;materialization"/>
        <rdfs:range rdf:resource="&xsd;string"/>
    </owl:DatatypeProperty>


    <!-- http://www.inmindcomputing.com/application/application-schema.owl#cpqSalesItemDiscount -->

    <owl:DatatypeProperty rdf:about="&as;cpqSalesItemDiscount">
        <rdf:type rdf:resource="&owl;FunctionalProperty"/>
        <rdfs:label rdf:datatype="&xsd;string">CPQ Sales Item Discount</rdfs:label>
        <ps:sparqlDefault>SELECT ?subject (?itemHeaderDiscount as ?cpqSalesItemDiscount) WHERE {
    ?subject rdf:type as:SalesItem.
    ?subject as:includesItemHeaderPriceItem ?itemHeaderPriceItem.
    ?itemHeaderPriceItem as:itemHeaderDiscount ?itemHeaderDiscount.
} </ps:sparqlDefault>
        <rdfs:domain rdf:resource="&as;SalesItem"/>
        <rdfs:subPropertyOf rdf:resource="&ps;assertion"/>
        <rdfs:subPropertyOf rdf:resource="&ps;calculation"/>
        <rdfs:subPropertyOf rdf:resource="&ps;materialization"/>
        <rdfs:range rdf:resource="&xsd;decimal"/>
    </owl:DatatypeProperty>
```

Figure 59 Example of Default SPARQL for Extension Fields

10.7 Mapping the name spaces for the custom fields

The custom fields such as CPQQuoteDiscount, CPQQuoteStatus, CPQSalesItemDiscount had the different name space and prefix in WSDL and therefore, we need to change the default name space and prefix by the following two settings.

```
    <!-- http://www.inmindcomputing.com/application/application-schema.owl#SettingExportCRMQuoteCustomFieldNamespaceUrl -->

    <owl:NamedIndividual rdf:about="&as;SettingExportCRMQuoteCustomFieldNamespaceUrl">
        <rdf:type rdf:resource="&as;SettingString"/>
        <rdfs:label rdf:datatype="&xsd;string">SettingExportCRMQuoteCustomFieldNamespaceUrl</rdfs:label>
        <ps:objectName rdf:datatype="&xsd;string">Define the namespace uri used in custom field of quote in CFC. ( eg CPQQuoteStatus
)</ps:objectName>
        <settingKey rdf:datatype="&xsd;string">Setting.Export.CRM.Quote.Custom.Field.NamespaceUrl</settingKey>
    </owl:NamedIndividual>


    <!-- http://www.inmindcomputing.com/application/application-schema.owl#SettingExportCRMQuoteCustomFieldPrefix -->

    <owl:NamedIndividual rdf:about="&as;SettingExportCRMQuoteCustomFieldPrefix">
        <rdf:type rdf:resource="&as;SettingString"/>
        <rdfs:label rdf:datatype="&xsd;string">SettingExportCRMQuoteCustomFieldPrefix</rdfs:label>
        <ps:objectName rdf:datatype="&xsd;string">Define the prefix used for custom field of quote in CFC. ( eg CPQQuoteStatus
)</ps:objectName>
        <settingKey rdf:datatype="&xsd;string">Setting.Export.CRM.Quote.Custom.Field.Prefix</settingKey>
    </owl:NamedIndividual>
```

10.7.1 How to know the prefix and namespace of custom fields

In order to know the prefix and namespace of the custom fields, it is necessary to open the WSDL file, obtained from Manage Sales Quote In web service, in SOAPUI as shown in Figure 60.

Figure 60 Prefix and Namespace for the Custom Fields

To open the WSDL in SoapUI,

- Click New SOAP Project in SoapUI as shown in Figure 61.
- Click Browse to select the Sales_Quote_Manage.wsdl as shown in Figure 62
- Click OK to open the WSDL context
- Click the Request1 under MaintainBundle of binding as shown in Figure 63
    - Search for the custom field to see which prefix is used for each custom field
- Search the prefix in first line to see the namespace of that prefix used in custom field as shown in Figure 60.

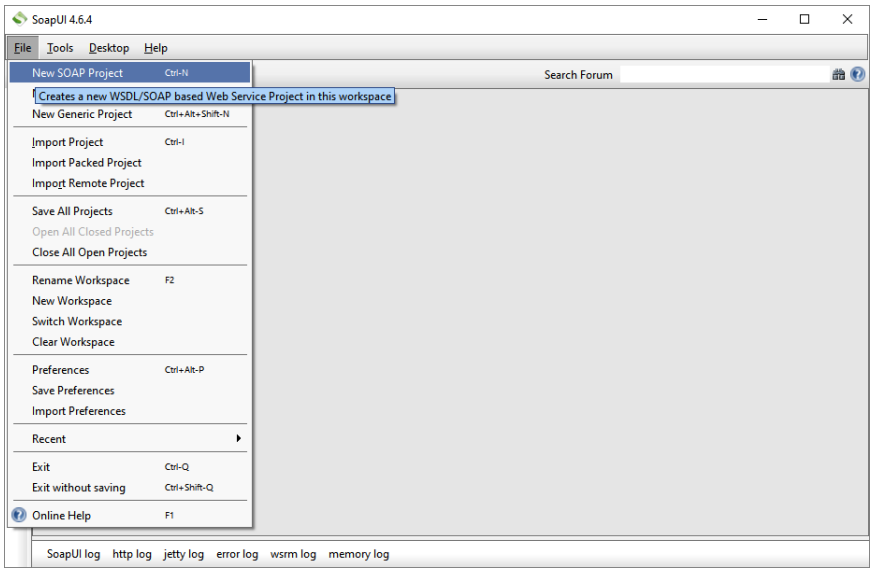


Figure 61 Creating New SOAP Project to import WSDL file

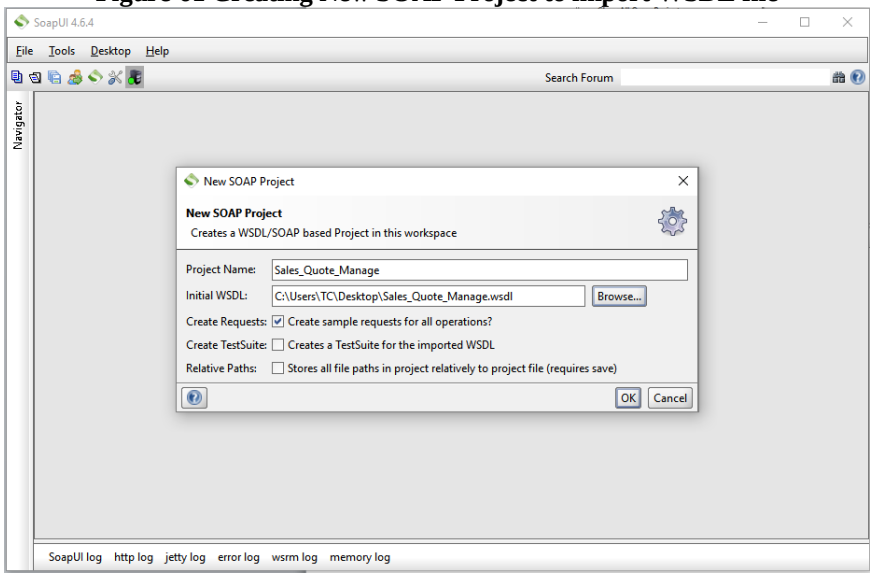


Figure 62 Importing the Sales_Quote_Manage.wsdl

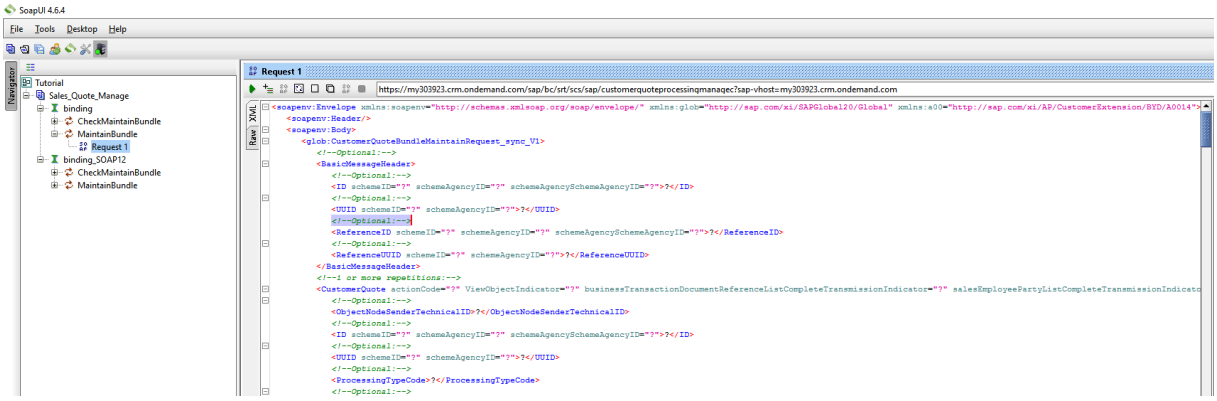


Figure 63 Opening the Request

11 Currency Decimal Places

In CPQe scenario with Quote to Quote integration, the CPQe will not export the sales item discount but will export the modified Unit Price based on Total Price and Quantity. While re-calculating unit price of Sales Item, CPQe will use the decimal places defined for each currency according to the target currency of quote.

12 How to define the remote business system

The remote business system refers to the ERP system and is needed to get the ERP ID of the account object and also to export the ERP Sales Document ID to CFC. This ID shows up in the document flow and external document section of the CFC Quote. The name of the ERP system is defined in **[application.properties]** and should be obtained from the implementation partner.

```
com.imc.webapp.app.id.remote.businesssytem=ERPIMC
```

In order to define the business system,

- click the Communication Systems to define new communication system or choose the one defined for integration with CPQe.

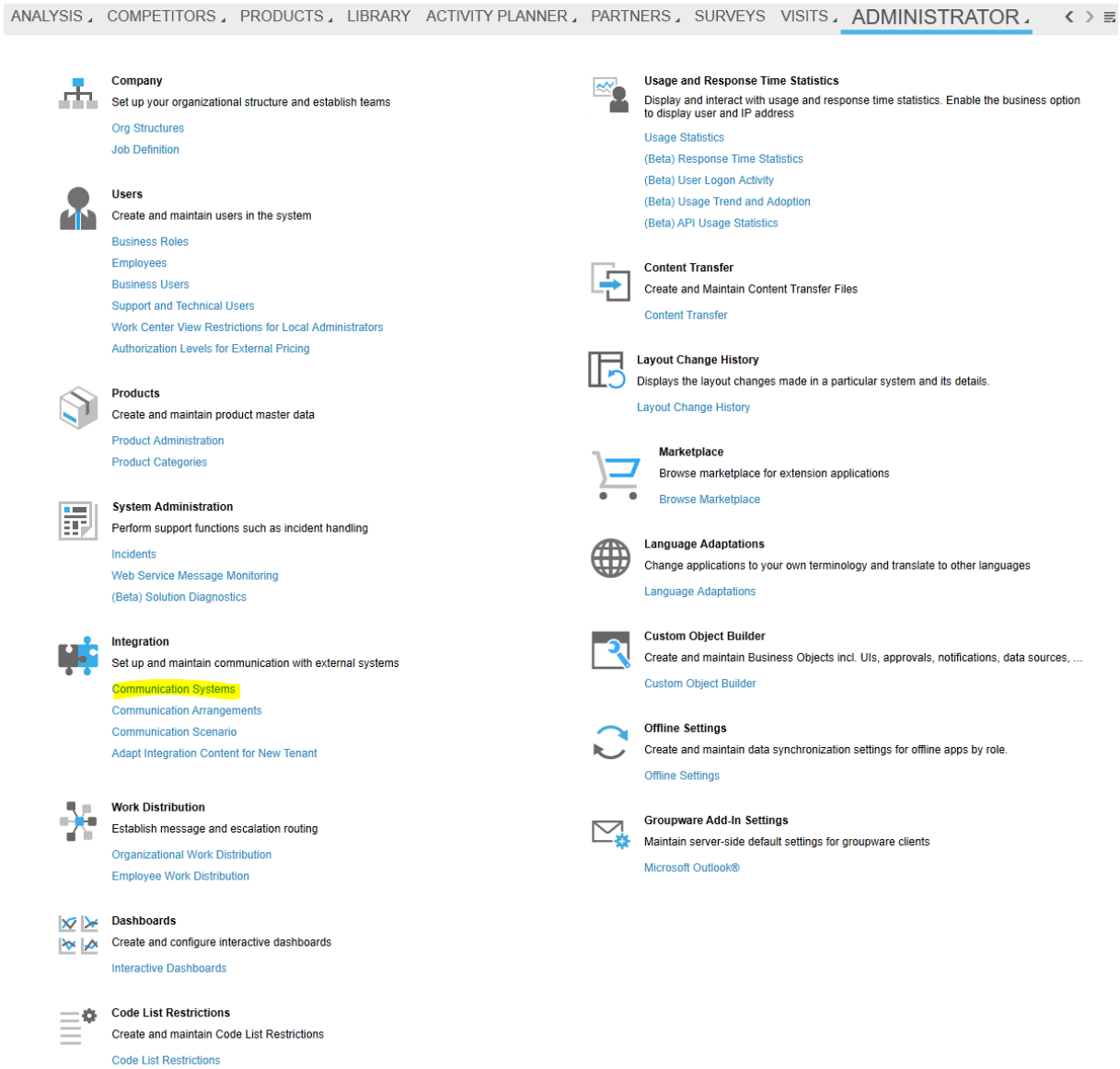


Figure 64 Configuring the Communication Systems

- Select the IMC

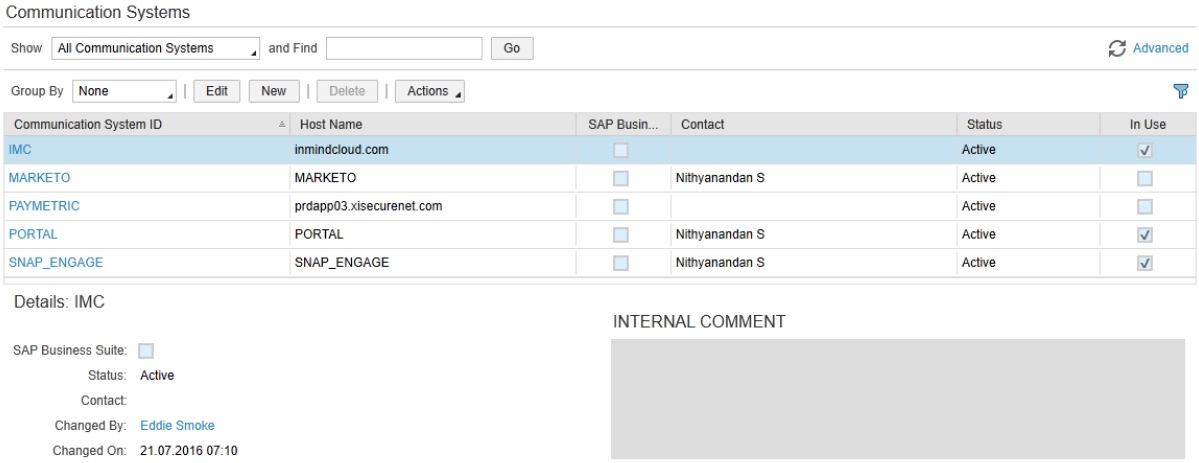


Figure 65 Select the correct communication system id

- It should open the following similar screen where you can see the Business Instances and Communication Arrangements configured for the selected communication system, IMC.

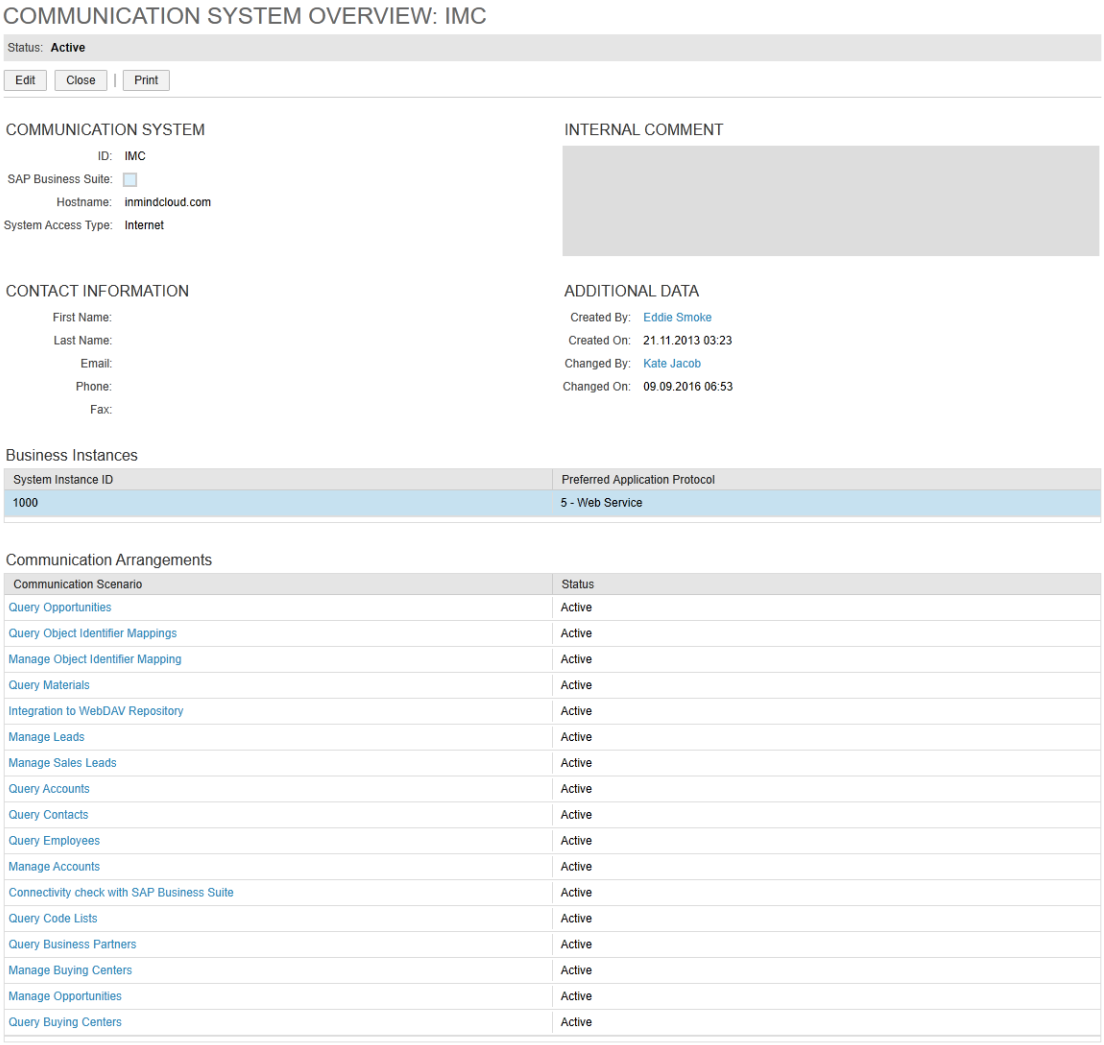


Figure 66 Properties of Communication System

- Click Edit to add the new Business Instance for ERP system

- The following screen will be shown
- Select the SYSTEM INSTANCES tab to add new ERP system instance
- Clicking Add Row and enter the System Instance ID as ERPIMC (the ERP system instance id is to be obtained from the actual ERP system)
- Click Save and Close

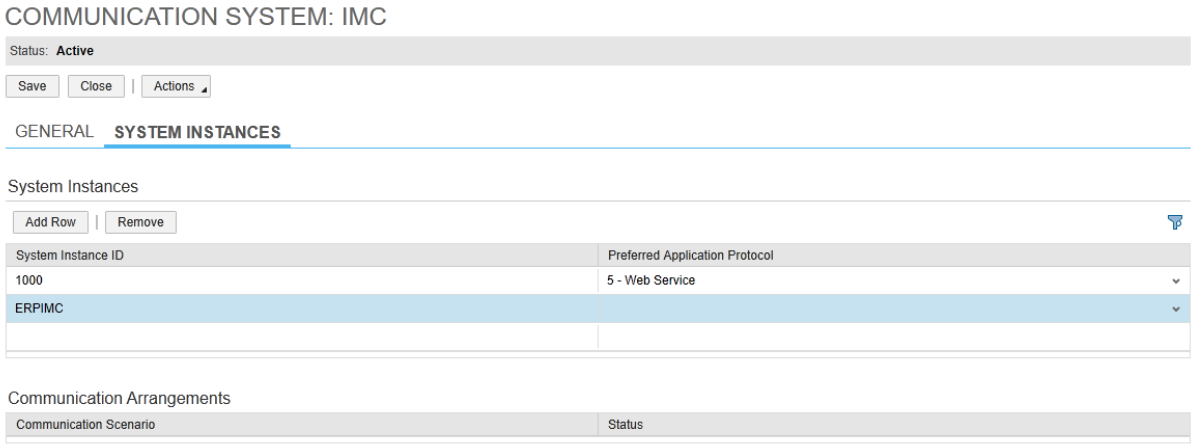


Figure 67 Adding the ERP System Instance ID

Once the CPQ quote is sent to ERP, the ERP side sales document ID is also exported back to CFC. It shows up as follows in CFC (example):

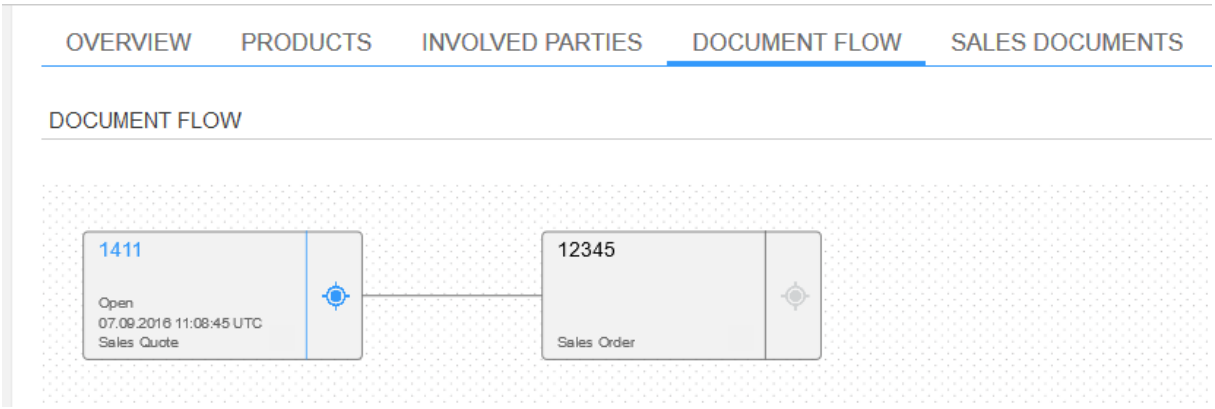


Figure 68 In document flow

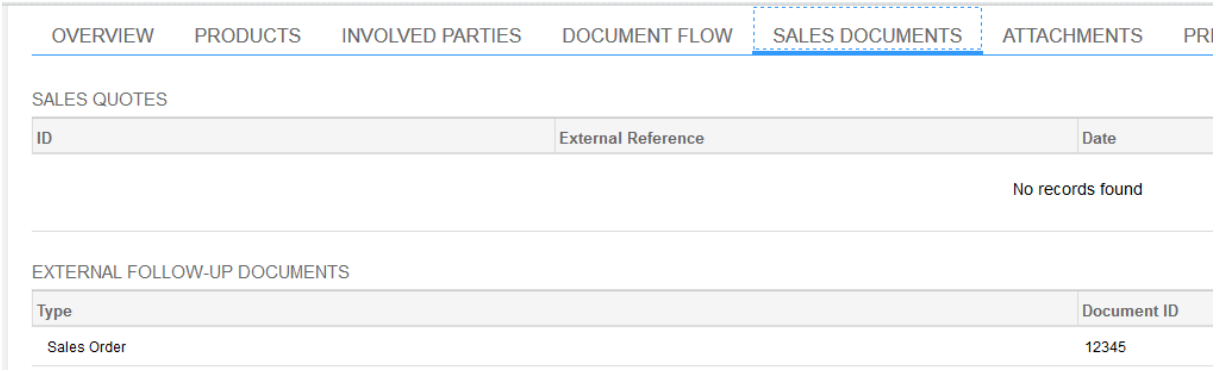


Figure 69 In External Follow up Documents

13 Settings Available in CPQ

13.1 SettingQuoteStatusControlInIssEnabled

This setting is used to enable the approval workflow in external system. By default, the approval workflow will be controlled in an external system. In order to enable the approval workflow in ISS, it is necessary to set it to be true, otherwise the external quote status will be mapped to the ISS sales document status as shown in 7.3.

```
<rdf:Description rdf:about="&as; SettingQuoteStatusControlInIssEnabled">
    <as:settingValueBoolean rdf:datatype="&xsd;boolean">true</as:settingValueBoolean>
</rdf:Description>
```

13.2 SettingImportOpportunityQuoteEnabled

This setting is used to disable the importing of opportunity associated with quote. By default, it will not import the associated opportunity of quote. To enable importing the associated opportunity of imported quote, the following settingValueBoolean needs to define in application-implementation.owl.

```
<rdf:Description rdf:about="&as; SettingImportOpportunityQuoteEnabled ">
    <as:settingValueBoolean rdf:datatype="&xsd;boolean">true</as:settingValueBoolean>
</rdf:Description>
```

13.3 SettingImportOpportunityPartnersEnabled

This setting is used to enable the importing/synchronizing of associated partners of opportunity. By default, importing the opportunity will not import the associated partners of opportunity.

```
<rdf:Description rdf:about="&as; SettingImportOpportunityPartnersEnabled">
    <as:settingValueBoolean rdf:datatype="&xsd;boolean">true</as:settingValueBoolean>
</rdf:Description>
```

13.4 SettingImportQuotePartnersEnabled

This setting is used to enable the importing/synchronizing of associated partners of quote. By default, importing the quote will not import the associated partners of quote.

```
<rdf:Description rdf:about="&as; SettingImportQuotePartnersEnabled">
    <as:settingValueBoolean rdf:datatype="&xsd;boolean">true</as:settingValueBoolean>
</rdf:Description>
```

13.5 SettingExportCRMQuoteCustomFieldPrefix

This setting is used to change the prefix for the custom fields (such as CPQQuoteStatus, CPQQuoteDiscount, CPQSalesItemDiscount,etc) if the name space and prefix used in custom fields are not same. The details about custom fields can be found in section 10.

```
<rdf:Description rdf:about="&as; SettingExportCRMQuoteCustomFieldPrefix">
    <as:settingValueString rdf:datatype="&xsd;string">$$$</as:settingValueString>
</rdf:Description>
```

13.6 SettingExportCRMQuoteCustomFieldNamespaceUrl

This setting is used to change the namespace for the custom fields (such as CPQQuoteStatus, CPQQuoteDiscount, CPQSalesItemDiscount,etc) if the prefix used in the custom fields are not same.

```
<rdf:Description rdf:about="&as; SettingExportCRMQuoteCustomFieldNamespaceUrl">
    <as:settingValueString rdf:datatype="&xsd;string">$$$</as:settingValueString>
</rdf:Description>
```

13.7 SettingExportQuoteOptionalSalesItem

This setting is used to export optional line items with zero prices. By default, all the optional line items will be exported with price if there is no SPARQL to set zero prices.

```
<rdf:Description rdf:about="&as; SettingExportQuoteOptionalSalesItem">
    <as:settingValueBoolean rdf:datatype="&xsd;boolean">true</as:settingValueBoolean>
</rdf:Description>
```

13.8 SettingExportQuoteStatus

This setting is used to change the CFC quote status (example OPEN, COMPLETED,WON OR LOST).

```
<rdf:Description rdf:about="&as; SettingExportQuoteStatus">
    <as:settingValueBoolean rdf:datatype="&xsd;boolean">true</as:settingValueBoolean>
</rdf:Description>
```

13.9 SettingExportQuoteProposalReport

This setting is used to enable to export the proposal report for every quote status. By default, it will be exported to CFC if the quote is accepted or rejected.

```
<rdf:Description rdf:about="&as; SettingExportQuoteProposalReport">
    <as:settingValueBoolean rdf:datatype="&xsd;boolean">true</as:settingValueBoolean>
</rdf:Description>
```

13.10 SettingExportQuoteAttachments

This setting is used to enable to export the attachments of quote for every quote status. By default, the attachments will only be exported to CFC if the quote is accepted or rejected.

```
<rdf:Description rdf:about="&as; SettingExportQuoteAttachments">
    <as:settingValueBoolean rdf:datatype="&xsd;boolean">true</as:settingValueBoolean>
</rdf:Description>
```

13.11 SettingExportQuoteWebServiceMonitoring

This setting is used to log the payload of the web service for import process as well as the export process. However, setting this to be true could decrease the performance thus it is recommended to enable when necessary.

```
<rdf:Description rdf:about="&as; SettingExportQuoteAttachments">
    <as:settingValueBoolean rdf:datatype="&xsd;boolean">true</as:settingValueBoolean>
</rdf:Description>
```

14 Frequently Asked Questions

14.1 How can I assign the correct objectExternalId of User

The objectExternalId of user has to be assigned in order to synchronize the Employee Responsible Party and Sales Employee Party of quote from the C4C system. The internal id of user is used to assign the objectExternalId of User and you can get the internal id of employee via the following OData service called.
Please see: section 5.

14.2 Concurrent exporting of CPQe while a quote is edited concurrently

Will the automatic update fail if C4C quote is edited at the same time?

Answer: The automatic update could fail if there are concurrent exports of the same quote. Currently, the automatic export could only happen if more than one user is exporting the same quote to ECC.
Example Scenarios

- The user exported to ECC and then updated some quote data in CFC
- There are two users exporting on the same quote to CFC

If that happened, the user who can save first in CFC will win and the user who committed last in CFC will get exception from CFC side due to the change state id is not same as he/she got before exporting. Starting from 1602, CPQe will retrieve the last change state id from CFC side before exporting and passing the change state id to the export process.

14.3 Exporting SENTTOERP status to CFC

On ERP sales document creation, the returned sales doc number is stored in ISS (SAP reference). When is this number replicated to C4C plus CPQQuoteStatus change to SENTTOERP? Does it require manual sync to C4C?

Answer: It will export ECC id to CFC automatically and CPQe will change status to SENDTOERP as soon as the export to ECC is successfully.

14.4 Exporting the CFC status by CPQe

Can we set CFC status based on CPQ status?

Answer: The CPQe can submit the quote status to show the workflow of the quote. This can be applied to internal quote as well as the external quote. However, changing the CFC quote status to Pending is not possible for the time being which means, withdrawing the accepted quote is not supported.
In order to do that, the following setting has to set the CFC status by CPQe.

```
<owl:NamedIndividual rdf:about="&as;SettingExportQuoteStatus">
        <rdf:type rdf:resource="&as;SettingBoolean"/>
        <rdfs:label rdf:datatype="&xsd;string">SettingExportQuoteStatus</rdfs:label>
        <ps:objectName rdf:datatype="&xsd;string">Enables export of CPQ Quote Status to CRM</ps:objectName>
        <settingKey rdf:datatype="&xsd;string">setting.export.quotestatus.enabled</settingKey>
</owl:NamedIndividual>
```

14.5 Refreshing CFC Quote Status

Will CPQQuoteStatus in C4C get an update directly or does it require manual synchronization?

Answer: Currently there is no way that CFC can update the CPQQuoteStatus. Thus it needs to refresh in CFC system to see the updated CPQQuoteStatus.

14.6 Form Template Not Found

When the user accepts the quote, I received the error, saying form template not found.

Answer: It is mainly because of the CFC customization. In CFC, when the quote is accepted or won, it generates its own PDF automatically and it failed to do so when CPQe changed the status of CFC quote into WON.

14.7 PDF Proposal was not export to CFC

When I accept the quote, the proposal PDF was not exported to CFC.

Answer: This could be due to the technical user id assigned for the web service certificate does not have the access rights to upload attachment to CFC. Please make sure that the technical user who is assigned for the web services activated in the communication arrangement has rights to upload the attachment.

14.8 Account ECC ID was not found

After synchronizing the account from CFC, the associated ERP ID was not fetched.

Answer: It could be mainly due to the fact that remote business system id defined in application.properties was wrong. You can also enable the web service monitoring to see the payload for fetching ERP ID of account.

14.9 BOM Exploded Product were export

Products created during the BOM explosion were exported to CFC even though they should not be exported.

Answer: There is a business data attribute called, productExportToCRM that you can set to each product to mark those products not to export to CRM.

14.10 Some languages were not synchronized for master data

After synchronizing master data from CFC, it is found that master data synchronization did not synchronize labels for some language.

Answer: Master data will be synchronized with the languages defined in the system. Please check the language that you want to synchronize label for master data is defined. Or you can try synchronizing the Language master data first then re-synchronize the master data of your choice. The details about master data synchronization can be found in section 8.

15 Understand the namespace of the imported data

Since 1604 release, those data points imported from Cloud for Customer will be given the namespace according to the CFC URL defined in **[application.properties]**. The following business types will be given the CFC Namespace with business type specific fragment.

- Account
    - Contact
        - Address
    - Address
- Opportunity
- Quote
    - Partner Function Record
- Master Data
    - Country
    - Industry
    - Distribution Channel
    - Unit of Measurement
    - Currency
    - Gender
    - Title
    - Payment Terms
    - Inco Terms
    - Sales Document Type
    - Language

15.1 Account Namespace

The following is an example of individuals having the CFC namespace and object external id of account as fragment.

	SUBJECT	SUBJECT_TYPE	OBJECT_VALUE
1	https://my302886.crm.ondemand.com/Account#10005	http://www.inmindcomputing.com/application/application-schema.owl#Account	10005
2	https://my302886.crm.ondemand.com/Account#10008	http://www.inmindcomputing.com/application/application-schema.owl#Account	10008
3	https://my302886.crm.ondemand.com/Account#10014	http://www.inmindcomputing.com/application/application-schema.owl#Account	10014
4	https://my302886.crm.ondemand.com/Account#10330	http://www.inmindcomputing.com/application/application-schema.owl#Account	10330
5	https://my302886.crm.ondemand.com/Account#1000490	http://www.inmindcomputing.com/application/application-schema.owl#Account	1000490

Figure 70 Example of Account Namespace and Fragment

15.2 Contact Namespace

The following is an example contact individuals having the CFC namespace and account external id + contact external id as fragment. For example, in row 1, 10008 in part of fragment represents an account external id and 1000083 represents a contact external id.

	SUBJECT	SUBJECT_TYPE	OBJECT_VALUE
1	https://my302886.crm.ondemand.com/Contact#10008-1000083	http://www.inmindcomputing.com/application/application-schema.owl#Contact	1000083
2	https://my302886.crm.ondemand.com/Contact#10005-1000086	http://www.inmindcomputing.com/application/application-schema.owl#Contact	1000086
3	https://my302886.crm.ondemand.com/Contact#10014-1000109	http://www.inmindcomputing.com/application/application-schema.owl#Contact	1000109
4	https://my302886.crm.ondemand.com/Contact#1000499-1000231	http://www.inmindcomputing.com/application/application-schema.owl#Contact	1000231
5	https://my302886.crm.ondemand.com/Contact#10330-1000396	http://www.inmindcomputing.com/application/application-schema.owl#Contact	1000396

Figure 71 Example of Contact Namespace and Fragment

15.3 Address Namespace

Since address could be an address of contact or account, the following shows an example of address name space and fragment. If an address is for contact, the fragment will start with Contact followed by its external id and the combined key of address data. If an address is for an account, the fragment will start with the Account followed by its external id and the combined key of address data.

Currently the combined key of address data is obtained by combining the following address business data attributes. If the length of combined key is more than 100, it will use the hash code value of the combined address string with city, country, zip information (example hash code of combined address data + city + country + zip).

- addressUnitNo
- addressStreet
- addressCity
- addressZip
- addressState
- hasCountry

	SUBJECT	SUBJECT_TYPE	OBJECT_VALUE
1	https://my302886.crm.ondemand.com/Address#Contact10014-1000109-30W%25252015th%252520StAustin73301USA	http://www.inmindcomputing.com/application/application-schema.owl#Address	1000109-00163e03-a070-1ed2-8b9e-6ccc20371197
2	https://my302886.crm.ondemand.com/Address#Account10014-123123Singapore1122501Germany	http://www.inmindcomputing.com/application/application-schema.owl#Address	00163e0f-a7ae-1ee5-a0ee-068568432b6
3	https://my302886.crm.ondemand.com/Address#Account1000496-7922Brewerton%252520RoadCicero13039NYUSA	http://www.inmindcomputing.com/application/application-schema.owl#Address	00163e04-b602-1ed2-b7c1-cd981dd32505
4	https://my302886.crm.ondemand.com/Address#Account1000690-Taivalkatu%2525207Lahti15170USA	http://www.inmindcomputing.com/application/application-schema.owl#Address	00163e05-b4c4-1ed4-92b1-3dd212650a22
5	https://my302886.crm.ondemand.com/Address#Account1000770-10Sunny%252520VilleSan%252520Diego92101CAUSA	http://www.inmindcomputing.com/application/application-schema.owl#Address	00163e05-b4c4-1ee5-91ab-0fb746f8a611

Figure 72 Example of Address Namespace and Fragment

15.4 Opportunity Namespace

The following is an example of individuals having the CFC namespace and object external id of account as fragment.

	SUBJECT	SUBJECT_TYPE	OBJECT_VALUE
1	https://my302886.crm.ondemand.com/Opportunity#44571	http://www.inmindcomputing.com/application/application-schema.owl#Opportunity	44571
2	https://my302886.crm.ondemand.com/Opportunity#45479	http://www.inmindcomputing.com/application/application-schema.owl#Opportunity	45479
3	https://my302886.crm.ondemand.com/Opportunity#45480	http://www.inmindcomputing.com/application/application-schema.owl#Opportunity	45480
4	https://my302886.crm.ondemand.com/Opportunity#45483	http://www.inmindcomputing.com/application/application-schema.owl#Opportunity	45483
5	https://my302886.crm.ondemand.com/Opportunity#45751	http://www.inmindcomputing.com/application/application-schema.owl#Opportunity	45751

Figure 73 Example of Opportunity Namespace and Fragment

15.5 Quote Namespace

The following is an example of individuals having the CFC namespace and object external id of quote as fragment.

	SUBJECT	SUBJECT_TYPE	OBJECT_VALUE
1	https://my302886.crm.ondemand.com/Quote#1	http://www.inmindcomputing.com/application/application-schema.owl#Quote	1
2	https://my302886.crm.ondemand.com/Quote#21	http://www.inmindcomputing.com/application/application-schema.owl#Quote	21
3	https://my302886.crm.ondemand.com/Quote#22	http://www.inmindcomputing.com/application/application-schema.owl#Quote	22
4	https://my302886.crm.ondemand.com/Quote#25	http://www.inmindcomputing.com/application/application-schema.owl#Quote	25
5	https://my302886.crm.ondemand.com/Quote#26	http://www.inmindcomputing.com/application/application-schema.owl#Quote	26

Figure 74 Example of Quote Namespace and Fragment

15.6 Partner Function Record Namespace

The following is an example of individuals having the CFC namespace and object external id of quote as fragment as well as the partner function type such as PAYER_PARTY, BILL_TO_PARTY, EMPLOYEE_RESPONSIBLE_PARTY, BUYER_PARTY, SHIP_TO_PARTY followed by the external id of partner function record where the external id of partner function record will be maintained as quote id + partner function type + link partner id (account's external id or user's external id).

	SUBJECT	SUBJECT_TYPE	OBJECT_VALUE
1	https://my302886.crm.ondemand.com/PartnerFunctionRecord#1421PAYER_PARTY1421PAYER_PARTY10014	http://www.inmindcomputing.com/application/application-schema.owl#PartnerFunctionRecord	1421PAYER_PARTY10014
2	https://my302886.crm.ondemand.com/PartnerFunctionRecord#1421BILL_TO_PARTY1421BILL_TO_PARTY10014	http://www.inmindcomputing.com/application/application-schema.owl#PartnerFunctionRecord	1421BILL_TO_PARTY10014
3	https://my302886.crm.ondemand.com/PartnerFunctionRecord#1421EMPLOYEE_RESPONSIBLE_PARTY1421EMPLOYEE_RESPONSIBLE_PARTY8000000313	http://www.inmindcomputing.com/application/application-schema.owl#PartnerFunctionRecord	1421EMPLOYEE_RESPONSIBLE_PARTY8000000313
4	https://my302886.crm.ondemand.com/PartnerFunctionRecord#1421BUYER_PARTY1421BUYER_PARTY10014	http://www.inmindcomputing.com/application/application-schema.owl#PartnerFunctionRecord	1421BUYER_PARTY10014
5	https://my302886.crm.ondemand.com/PartnerFunctionRecord#1421SHIP_TO_PARTY1421SHIP_TO_PARTY10014	http://www.inmindcomputing.com/application/application-schema.owl#PartnerFunctionRecord	1421SHIP_TO_PARTY10014

Figure 75 Example of Partner Function Record Namespace and Fragment

15.7 Master Data Namespace

For master data fragment, it will start with the business type of master data followed by the serial id and the object external id.

	SUBJECT	SUBJECT_TYPE	OBJECT_VALUE
1	https://my302886.crm.ondemand.com/Country#Country_0VU	http://www.inmindcomputing.com/application/application-schema.owl#Country	VU
2	https://my302886.crm.ondemand.com/Country#Country_174MV	http://www.inmindcomputing.com/application/application-schema.owl#Country	MV
3	https://my302886.crm.ondemand.com/Country#Country_121BM	http://www.inmindcomputing.com/application/application-schema.owl#Country	BM
4	https://my302886.crm.ondemand.com/Country#Country_198NP	http://www.inmindcomputing.com/application/application-schema.owl#Country	NP
5	https://my302886.crm.ondemand.com/Country#Country_64AW	http://www.inmindcomputing.com/application/application-schema.owl#Country	AW

Figure 76 Example of Country Namespace and Fragment

	SUBJECT	SUBJECT_TYPE	OBJECT_VALUE
1	https://my302886.crm.ondemand.com/Industry#Industry_1252	http://www.inmindcomputing.com/application/application-schema.owl#Industry	52
2	https://my302886.crm.ondemand.com/Industry#Industry_522	http://www.inmindcomputing.com/application/application-schema.owl#Industry	22
3	https://my302886.crm.ondemand.com/Industry#Industry_623	http://www.inmindcomputing.com/application/application-schema.owl#Industry	23
4	https://my302886.crm.ondemand.com/Industry#Industry_1681	http://www.inmindcomputing.com/application/application-schema.owl#Industry	81
5	https://my302886.crm.ondemand.com/Industry#Industry_1854	http://www.inmindcomputing.com/application/application-schema.owl#Industry	54

Figure 77 Example of Industry Namespace and Fragment

	SUBJECT	SUBJECT_TYPE	OBJECT_VALUE
1	https://my302886.crm.ondemand.com/DistributionChannel#DistributionChannel_001	http://www.inmindcomputing.com/application/application-schema.owl#DistributionChannel	01
2	https://my302886.crm.ondemand.com/DistributionChannel#DistributionChannel_102	http://www.inmindcomputing.com/application/application-schema.owl#DistributionChannel	02

Figure 78 Example of Distribution Channel Namespace and Fragment

	SUBJECT	SUBJECT_TYPE	OBJECT_VALUE
1	https://my302886.crm.ondemand.com/UnitofMeasurement#UnitofMeasurement_11E49	http://www.inmindcomputing.com/application/application-schema.owl#UnitofMeasurement	E49
2	https://my302886.crm.ondemand.com/UnitofMeasurement#UnitofMeasurement_13KMT	http://www.inmindcomputing.com/application/application-schema.owl#UnitofMeasurement	KMT
3	https://my302886.crm.ondemand.com/UnitofMeasurement#UnitofMeasurement_9XSX	http://www.inmindcomputing.com/application/application-schema.owl#UnitofMeasurement	XSX
4	https://my302886.crm.ondemand.com/UnitofMeasurement#UnitofMeasurement_19DZN	http://www.inmindcomputing.com/application/application-schema.owl#UnitofMeasurement	DZN
5	https://my302886.crm.ondemand.com/UnitofMeasurement#UnitofMeasurement_8HUR	http://www.inmindcomputing.com/application/application-schema.owl#UnitofMeasurement	HUR

Figure 79 Example of Unit of Measurement Namespace and Fragment

	SUBJECT	SUBJECT_TYPE	OBJECT_VALUE
1	https://my302886.crm.ondemand.com/Currency#Currency_65GIP	http://www.inmindcomputing.com/application/application-schema.owl#Currency	GIP
2	https://my302886.crm.ondemand.com/Currency#Currency_26BDT	http://www.inmindcomputing.com/application/application-schema.owl#Currency	BDT
3	https://my302886.crm.ondemand.com/Currency#Currency_192BRL	http://www.inmindcomputing.com/application/application-schema.owl#Currency	BRL
4	https://my302886.crm.ondemand.com/Currency#Currency_21GEL	http://www.inmindcomputing.com/application/application-schema.owl#Currency	GEL
5	https://my302886.crm.ondemand.com/Currency#Currency_97SVC	http://www.inmindcomputing.com/application/application-schema.owl#Currency	SVC

Figure 80 Example of Currency Namespace and Fragment

	SUBJECT	SUBJECT_TYPE	OBJECT_VALUE
1	https://my302886.crm.ondemand.com/Gender#Gender_11	http://www.inmindcomputing.com/application/application-schema.owl#Gender	1
2	https://my302886.crm.ondemand.com/Gender#Gender_20	http://www.inmindcomputing.com/application/application-schema.owl#Gender	0
3	https://my302886.crm.ondemand.com/Gender#Gender_02	http://www.inmindcomputing.com/application/application-schema.owl#Gender	2

Figure 81 Example of Gender Namespace and Fragment

	SUBJECT	SUBJECT_TYPE	OBJECT_VALUE
1	https://my302886.crm.ondemand.com/PersonTitle#PersonTitle_00001	http://www.inmindcomputing.com/application/application-schema.owl#PersonTitle	0001
2	https://my302886.crm.ondemand.com/PersonTitle#PersonTitle_10002	http://www.inmindcomputing.com/application/application-schema.owl#PersonTitle	0002

Figure 82 Example of Person Title Namespace and Fragment

	SUBJECT	SUBJECT_TYPE	OBJECT_VALUE
1	https://my302886.crm.ondemand.com/PaymentTerms#PaymentTerms_211014	http://www.inmindcomputing.com/application/application-schema.owl#PaymentTerms	1014
2	https://my302886.crm.ondemand.com/PaymentTerms#PaymentTerms_111023	http://www.inmindcomputing.com/application/application-schema.owl#PaymentTerms	1023
3	https://my302886.crm.ondemand.com/PaymentTerms#PaymentTerms_141017	http://www.inmindcomputing.com/application/application-schema.owl#PaymentTerms	1017
4	https://my302886.crm.ondemand.com/PaymentTerms#PaymentTerms_231021	http://www.inmindcomputing.com/application/application-schema.owl#PaymentTerms	1021
5	https://my302886.crm.ondemand.com/PaymentTerms#PaymentTerms_01003	http://www.inmindcomputing.com/application/application-schema.owl#PaymentTerms	1003

Figure 83 Example of Payment Terms Namespace and Fragment

	SUBJECT	SUBJECT_TYPE	OBJECT_VALUE
1	https://my302886.crm.ondemand.com/IncoTerms#IncoTerms_10CIP	http://www.inmindcomputing.com/application/application-schema.owl#IncoTerms	CIP
2	https://my302886.crm.ondemand.com/IncoTerms#IncoTerms_7DDP	http://www.inmindcomputing.com/application/application-schema.owl#IncoTerms	DDP
3	https://my302886.crm.ondemand.com/IncoTerms#IncoTerms_9DDU	http://www.inmindcomputing.com/application/application-schema.owl#IncoTerms	DDU
4	https://my302886.crm.ondemand.com/IncoTerms#IncoTerms_0DAF	http://www.inmindcomputing.com/application/application-schema.owl#IncoTerms	DAF
5	https://my302886.crm.ondemand.com/IncoTerms#IncoTerms_13DAP	http://www.inmindcomputing.com/application/application-schema.owl#IncoTerms	DAP

Figure 84 Example of Inco Terms Namespace and Fragment

	SUBJECT	SUBJECT_TYPE	OBJECT_VALUE
1	https://my302886.crm.ondemand.com/SalesDocumentType#SalesDocumentType_27OR	http://www.inmindcomputing.com/application/application-schema.owl#SalesDocumentType	OR
2	https://my302886.crm.ondemand.com/SalesDocumentType#SalesDocumentType_33CR	http://www.inmindcomputing.com/application/application-schema.owl#SalesDocumentType	CR
3	https://my302886.crm.ondemand.com/SalesDocumentType#SalesDocumentType_37CONF	http://www.inmindcomputing.com/application/application-schema.owl#SalesDocumentType	CONF
4	https://my302886.crm.ondemand.com/SalesDocumentType#SalesDocumentType_29CI	http://www.inmindcomputing.com/application/application-schema.owl#SalesDocumentType	CI
5	https://my302886.crm.ondemand.com/SalesDocumentType#SalesDocumentType_31SOR	http://www.inmindcomputing.com/application/application-schema.owl#SalesDocumentType	SOR

Figure 85 Example of Sales Document Type Namespace and Fragment

	SUBJECT	SUBJECT_TYPE	OBJECT_VALUE
1	https://my302886.crm.ondemand.com/Language#Language_0LV	http://www.inmindcomputing.com/application/application-schema.owl#Language	LV
2	https://my302886.crm.ondemand.com/Language#Language_16FI	http://www.inmindcomputing.com/application/application-schema.owl#Language	FI
3	https://my302886.crm.ondemand.com/Language#Language_34RU	http://www.inmindcomputing.com/application/application-schema.owl#Language	RU
4	https://my302886.crm.ondemand.com/Language#Language_12SV	http://www.inmindcomputing.com/application/application-schema.owl#Language	SV
5	https://my302886.crm.ondemand.com/Language#Language_28SR	http://www.inmindcomputing.com/application/application-schema.owl#Language	SR

Figure 86 Example of Language Namespace and Fragment

Appendix A: ISS and CPQ Account Data Mapping for Import Process

Table 8 ISS and CPQ Account Data Mapping for Import Process

Serial No	ISS Field Name	CFC Field Name	Master Data	Remark	Import	Synchronized
	Account Header					
1	objectExternalId	id			Yes	Yes
2	objectName	customer's organisation's first name + organisation's last name			Yes	Yes
3	accountProspect	customer.isProspectIndicator()			Yes	Yes
4	accountClassification	customer.getABCClassificationCode()	Not Supported	Remark we could use the master data	Yes	Yes
5	hasIndustry	customer.getIndustrialSectorCode().getValue()	Yes		Yes	Yes
6	hasAccountStatus	customer.getLifeCycleStatusCode()		Remark we could use the master data	Yes	Yes
	Sales Area and Payment Terms					
7	hasSalesOrg	salesArrangement.getSalesOrganisationID()			Yes	Yes
8	hasDistributionChannel	salesArrangement.getDistributionChannelCode()	Yes		Yes	Yes
9	hasPaymentTerms	salesArrangement.getCashDiscountTermsCode()	Yes		Yes	Yes
10	containsCreator			Only assign for new accounts by assigning current user's bo	Yes	No
11	containsOwner	customer.getDirectResponsibility().get(0).getEmployeeID()		If the id is not found in externalId of user in ISS, use the current user's bo	Yes	Yes
	Addresses of Account					
12	objectExternalId	customerAddressInformation.getUUID()			Yes	Yes
13	containsCreator			Only assign for new accounts by assigning current user's bo	Yes	No
14	addressEmail	emailURI			Yes	Yes
15	addressPhone	address.getTelephone()			Yes	Yes
16	addressFax	address.getFacsimileFormattedNumberDescription()			Yes	Yes
17	addressUnitNo	postalAddress.getHouseID()			Yes	Yes
18	addressStreet	postalAddress.getStreetName()			Yes	Yes
19	hasCountry	postalAddress.getCountryCode()	Yes		Yes	Yes
20	addressCity	postalAddress.getCityName()			Yes	Yes
21	addressZip	postalAddress.getStreetPostalCode()			Yes	Yes
22	addressState	postalAddress.getRegionCode()	Not Supported	Remark we could use the master data	Yes	Yes
23	addressMain	addressUsage.getAddressUsageCode().getValue()		Remark we could use the master data, Main = XXDEFAULT	Yes	Yes
24	addressShipTo	addressUsage.getAddressUsageCode().getValue()		Remark we could use the master data, SHIP_TO	Yes	Yes
25	addressBillTo	addressUsage.getAddressUsageCode().getValue()		Remark we could use the master data, BILL_TO	Yes	Yes
	Contacts of Account					
26	objectExternalId	contact.getInternalID()			Yes	Yes
27	personIncludedBy			accountBo	Yes	Yes
28	hasTitle	contact.getFormOfAddressCode()	Yes		Yes	Yes
29	personFirstName	contact.getGivenName()			Yes	Yes
30	personLastName	contact.getMiddleName() + contact.getFamilyName()			Yes	Yes
31	hasGender	contact.getGenderCode()	Yes		Yes	Yes
32	containsCreator			Only assign for new accounts by assigning current user's bo	Yes	No
33	personMobile	workplaceTelephone.getFormattedNumberDescription()		Assign only if the workplaceTelephone isMobilePhoneIndicator	Yes	Yes
34	personPhone	workplaceTelephone.getFormattedNumberDescription()			Yes	Yes
35	personEmail	contactDetails.getWorkplaceEmailURI()			Yes	Yes
36	personPosition	contactDetails.getWorkplaceFunctionalTitleName()			Yes	Yes
37	personFax	contactDetails.getWorkplaceFacsimileFormattedNumberDescription()			Yes	Yes
	Addresses of Contacts of Account					
38	objectExternalId	contact.getInternalID() - contactDetails.getWorkplaceBusinessAddressUUID()			Yes	Yes
39	addressUnitNo	workplacePostalAddress.getHouseID			Yes	Yes
40	addressCity	workplacePostalAddress.getCityName			Yes	Yes
41	addressStreet	workplacePostalAddress.getStreetName			Yes	Yes
42	addressZip	workplacePostalAddress.getStreetPostalCode			Yes	Yes
43	hasCountry	workplacePostalAddress.getCountryCode	Yes		Yes	Yes

Appendix B: ISS and CPQ Opportunity Data Mapping for Import Process

Table 9 ISS and CPQ Opportunity Data Mapping for Import Process

Serial No	ISS Field Name	CFC Field Name	Master Data	Remark	Import	Synchronized
Opportunity Header						
1	objectExternalId	id			YES	NO
2	objectName	opportunity.getName			YES	NO
3	salesDocumentDescription	opportunity.getText			YES	NO
4	hasSalesDocumentStatus	opportunity.getLifeCycleStatusCode()	Not Supported	Remark we could use the master data	YES	NO
5	hasSalesPhase	opportunity.getSalesCycle().getSalesCyclePhaseCode()	Not Supported	Remark we could use the master data	YES	NO
6	hasSource	opportunity.getOriginTypeCode()	Not Supported	Remark we may use the master data	YES	NO
7	opportunityChanceofSuccess	opportunity.getSalesForecast().getProbabilityPercent()			YES	NO
8	usesPerson	opportunity.getProspectParty().getContactPerson().getBusinessPartnerInternalID()		Assigning Prospect Party Contact	YES	NO
9	objectDateOfCreation	opportunity.getSalesForecast().getExpectedProcessingDatePeriod().getStartDate()			YES	NO
10	salesDocumentDateOfExpiry	opportunity.getSalesForecast().getExpectedProcessingDatePeriod().getEndDate()			YES	NO
11	opportunityRevenueStartDate	opportunity.getSalesForecast().getExpectedRevenueDatePeriod().getStartDate()			YES	NO
12	opportunityRevenueEndDate	opportunity.getSalesForecast().getExpectedRevenueDatePeriod().getEndDate()			YES	NO
13	opportunityVolume	opportunity.getSalesForecast().getExpectedRevenueAmount()			YES	NO
14	hasBaseCurrency	opportunity.getSalesForecast().getExpectedRevenueAmount().getCurrencyCode()	Yes		YES	NO
15	opportunityContainedBy			Assign account BO		
Opportunity Line Items						
16	isProduct	item.getItemProduct().getProductInternalID()		Only add those product where the	YES	NO
17	itemHeaderQuantity	item.getQuantity()		internal id are found in ISS as external	YES	NO
18	itemHeaderPrice	item.getExpectedNetAmount().getValue()/item.getQuantity()		id in ISS	YES	NO
Sales Data						
We dropped importing sales data for opportunity						

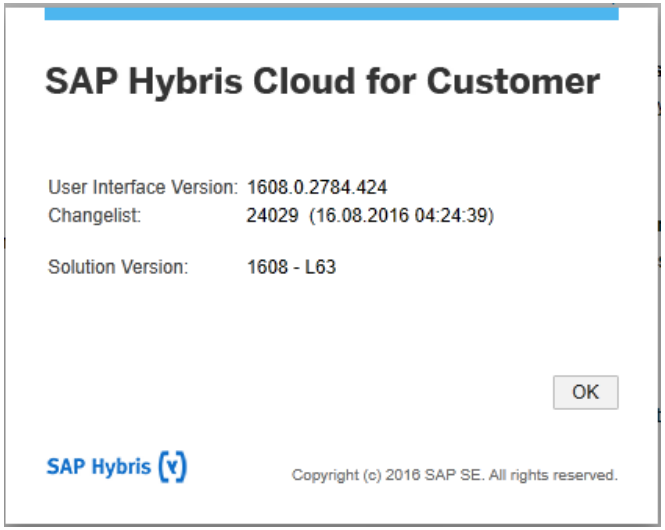
Appendix C: ISS and CPQ Quote Data Mapping for Import Process

Table 10 ISS and CPQ Quote Data Mapping for Import Process

Serial No	ISS Field Name	CFC Field Name	Master Data	Remark	Import	Synchronized
		Quote Header				
1	objectExternalId	id			YES	YES
2	objectName	quote.getName() or quote.getID()			YES	YES
3	salesDocumentInISS	quote.getDataOriginTypeCode()		DataOriginTypeCode of 10 = ISS Quote where we assign during quote export	YES	YES
4	quoteContainedBy			Assign Account BO	YES	YES
5	usesPerson	quote.getBuyerParty().getContactParty().getPartyID()		Assign only if the contact is main indicator	YES	YES
6	hasBaseCurrency	quote.getPricingTerms().getCurrencyCode()	Yes		YES	YES
7	hasTargetCurrency	quote.getPricingTerms().getCurrencyCode()	Yes		YES	YES
8	documentHeaderDiscount	priceCalculation.getRate().getDecimalValue() x -1		Assign type code of price component is 0007	YES	YES
9	hasPaymentTerms	quote.getCashDiscountTerms().getCode()	Yes	If quote does not have payment terms, assign the one from account	YES	YES
10	hasIncoTerms	quote.getDeliveryTerms().getIncoterms().getClassificationCode()	Yes		YES	YES
11	hasSalesDocumentType	quote.getProcessingTypeCode()	Yes		YES	YES
12	hasSalesOrg	quote.getSalesAndServiceBusinessArea().getSalesOrganisationID()			YES	YES
13	hasDistributionChannel	quote.getSalesAndServiceBusinessArea().getDistributionChannelCode()	Yes		YES	YES
14	hasDivision	quote.getSalesAndServiceBusinessArea().getDivisionCode()			YES	YES
15	quoteIncoTermsLocation	quote.getDeliveryTerms().getIncoterms().getTransferLocationName()			YES	YES
16	quoteEffectiveDate	quote.getPostingDateTime()			YES	YES
17	quotePricingDate	quote.getPricingTerms().getPriceDateTime()			YES	YES
18	salesDocumentDateOfExpiry	quote.getValidityPeriod().getEndDate()			YES	YES
19	quoteRequestedDate	quote.getRequestedFulfillmentPeriodPeriod().getStartDateTime()			YES	YES
20	hasLanguage	quote.getDocumentLanguageCode()		It will use the browser's locale if CFC did not return document langauge code	YES	YES
21	usesAddress	quote.getBuyerParty() -> getAddress() -> getPostalAddress			YES	NO
22	cpqQuoteDiscount	quote.getCPQQuoteDiscount()		A Sparql based cpq quote discount to export CPQ Quote discount into CFC	NO	YES
23	cpqQuoteStatus	quote.getCPQQuoteStatus()		A SPARQL based CPQ quote status to export CPQ status into CFC	NO	YES
		Quote Line Items				
24	isProduct	CustomerQuoteByElementsResponseItemV1.getItemProduct() -> getProductInternalID()		It will expend CFC Product Internal ID with leading zero and make upper case	YES	NO
25	salesItemIndex	CustomerQuoteByElementsResponseItemV1.getID()		Serial Number assigned by ISS internally after sorting ID of sales items from CFC	YES	NO
26	itemHeaderQuantity	CustomerQuoteByElementsResponseItemV1.getItemScheduleLine() -> getQuantity			YES	NO
27	hasUnitofMeasure	quantity.getUnitCode()	Yes		YES	NO
28	itemHeaderDiscount	CustomerQuoteByElementsResponseItemV1.getCPQLineItemDiscount		Set the item header discount if CFC has CPQLineItemDiscount value	YES	NO
		Quote Partners				
29	definePartnerFunctionRecords			Setting is available to disable it	YES	YES

Appendix D: ISS and CPQ Quote Data Mapping for Export Process

Table 11 ISS and CPQ Quote Data Mapping for Export Process

Serial No	CFC Field Name	ISS Field Name	Master Data	Remark
		Quote Header		
1	customerQuoteMaintainReqV1.setID	objectExternalId		This is just to pass quoteID to web service
2	customerQuoteMaintainReqV1.setName();	salesDocumentDescription		
3	customerQuoteMaintainReqV1.setBuyerID	"CPQ-" + quoteId.toUpperCase()		
4	customerQuoteMaintainReqV1.setValidityPeriod->Start Date	quoteEffectiveDate		
5	customerQuoteMaintainReqV1.setValidityPeriod-End Date	salesDocumentDateOfExpiry		
6	customerQuoteMaintainReqV1.setRequestedFulfillmentPeriod	quoteRequestedDate		
7	customerQuoteMaintainReqV1.setPostingDateTime	quoteEffectiveDate		
8	customerQuoteMaintainReqV1.setBuyerParty - > setBusinessPartnerInternalID	account 's external ID		
9	customerQuoteMaintainReqV1.setBuyerParty - > setContactParty	quote usesPerson's external ID		
10	customerQuoteMaintainReqV1.setEmployeeResponsibleParty	current user's external ID		
11	customerQuoteMaintainReqV1.setSalesAndServiceBusinessArea - setSalesOrganisationID	hasSalesOrg	Not Supported	
12	customerQuoteMaintainReqV1.setSalesAndServiceBusinessArea - setDistributionChannelCode	hasDistributionChannel	Yes	
13	customerQuoteMaintainReqV1.setSalesAndServiceBusinessArea - setDivisionCode	hasDivision	Not Supported	
14	ustomerQuoteMaintainReqV1.getBusinessTransactionDocumentReference()->add(opportunityId)	externalOpportunityId		Type = Opportunity, Role Code : PREDESSOR
15	ustomerQuoteMaintainReqV1.getBusinessTransactionDocumentReference()->add(sales quote or sales order)	objectERPID		It could be ECC Order ID or ECC Quote ID
16	customerQuoteMaintainReqV1.setPricingTerms-> setCurrencyCode	hasTargetCurrency	Yes	
17	customerQuoteMaintainReqV1.setPricingTerms-> setPriceDateTime	quotePricingDate		
18	customerQuoteMaintainReqV1.setCashDiscountTerms	objectExternalId of BO of hasPaymentTerms	Yes	
19	customerQuoteMaintainReqV1.setDeliveryTerms	objectExternalId of BO of hasIncoTerms	Yes	
20	customerQuoteMaintainReqV1.setCompleteSalesQuoteIndicator	exportTypeModel.isChangeCFCStatusCompleted()		This is to set CFC quote status to be completed
21	customerQuoteMaintainReqV1.setRequestConfirmationIssueIndicator	exportTypeModel.isChangeCFCStatusAcceptedOrWon()		This is to set CFC quote progress to be WON
22	customerQuoteMaintainReqV1.setSalesTerms -> setCancellationReasonCode	QuoteCancellationReasonCode.OTHER_REASON		This is to set CFC quote progress to be LOST with REASON Code (Other Reason)
23	customerQuoteMaintainReqV1.setCPQQuoteStatus	cpqQuoteStatus		
24	customerQuoteMaintainReqV1.setAttachmentFolder	pdf report		
25	customerQuoteMaintainReqV1.setPriceCalculation -> setMainDiscount	quote includesDocumentHeaderPriceItem -> documentHeaderDiscount		
26	customerQuoteMaintainReqV1.setCPQQuoteDiscount	cpqQuoteDiscount		
27	customerQuoteMaintainReqV1.setTotalValues	documentHeaderPrice		External Quote Only
		Quote Line Items		
28	item.setID	sales item index		
29	item.setItemProduct -> setProductInternalID	objectERPId of Product of Sales Item		Removed the leading zero if objectERPId is numeric and make upper case if objectERPID is alpha-numeric
30	item.setItemProductRecipientParty	objectExternalId of Account		
31	item.setDescription	objectName of SalesItem		ITEM_DESCRIPTION_MAX_C4C_LENGTH = 40
32	item.setItemRequestedScheduleLine -> setQuantity	itemHeaderQuantity		
33	item.setItemRequestedScheduleLine -> setQuantity ->setUnitCode	hasUnitofMeasure of SalesItem	Yes	
34	item.getItemPriceCalculation().setItemMainDiscoun	itemHeaderDiscount		
35	item.setCPQLineItemDiscount	cpqSalesItemDiscount		
36	item.setItemPriceCalculationItem->setItemMainPrice -> setRate -> setCurrencyCode	quote hasTargetCurrency		Only export it if the quote is internal quote for CFC
37	item.setItemPriceCalculationItem->setItemMainPrice -> setRate -> setBaseDecimalValue	itemHeaderQuantity of salesItem		Only export it if the quote is internal quote for CFC
38	item.setItemPriceCalculationItem->setItemMainPrice -> setRate -> setDecimalValue	itemHeaderTotalPrice of salesItem		Only export it if the quote is internal quote for CFC
39	item.setItemTotalValues	sales item total price		Only export it if the quote is external quote for CFC

The following is the version of cloud for customer that works with the current CPQe release, 1604.