incorta.
The Fastest Way to What Matters

Deploying Incorta Analytics for Oracle Cloud ERP

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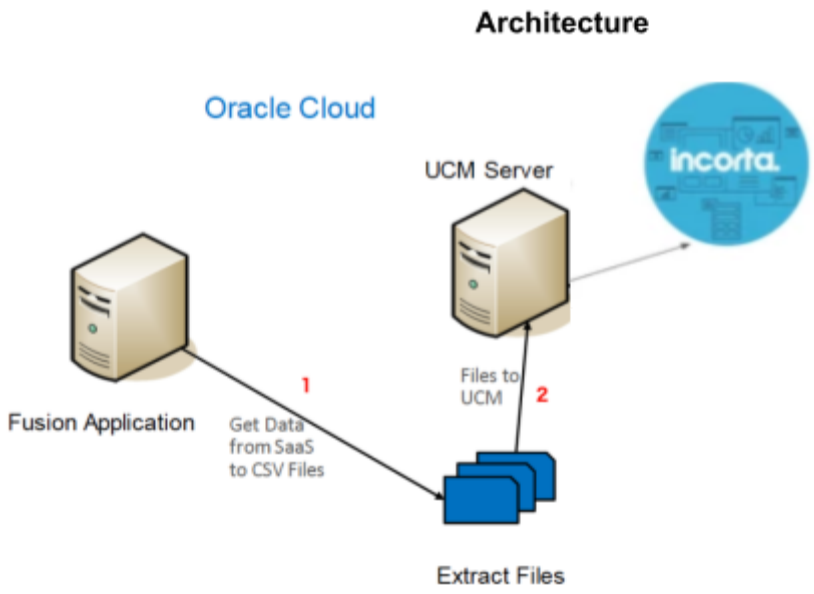


Deploying Incorta Oracle Cloud ERP analytics

Prereqs

- Make sure you are trained in Incorta by completing the Developer course at https://learn.incorta.com/
- The Oracle cloud erp BICC url needs to be accessible from the incorta server, it should not be blocked. To learn about BICC please check this link.
- We need a cloud ERP login which has Admin access to BICC and UCM. If required, ask them to create the user **which has the correct roles** as per these docs. Make sure that you create only one user who can access both bicc and ucm.
    - BICC - https://docs.oracle.com/en/cloud/saas/applications-common/21b/biacc/get-started.html#ProvisioningUserforBICloudConnectorAccess=GUID-BC8898BD-CCFB-4AF1-8B6E-680D3C888308
    - UCM https://docs.oracle.com/en/cloud/saas/applications-common/21b/biacc/get-started.html#ProvisioningUsertoAccessCloudConnectorContentinUCM=GUID-CA23212A-CA84-4F38-BF05-0C63162DAC49
    -

Sample BICC/UCM URLs

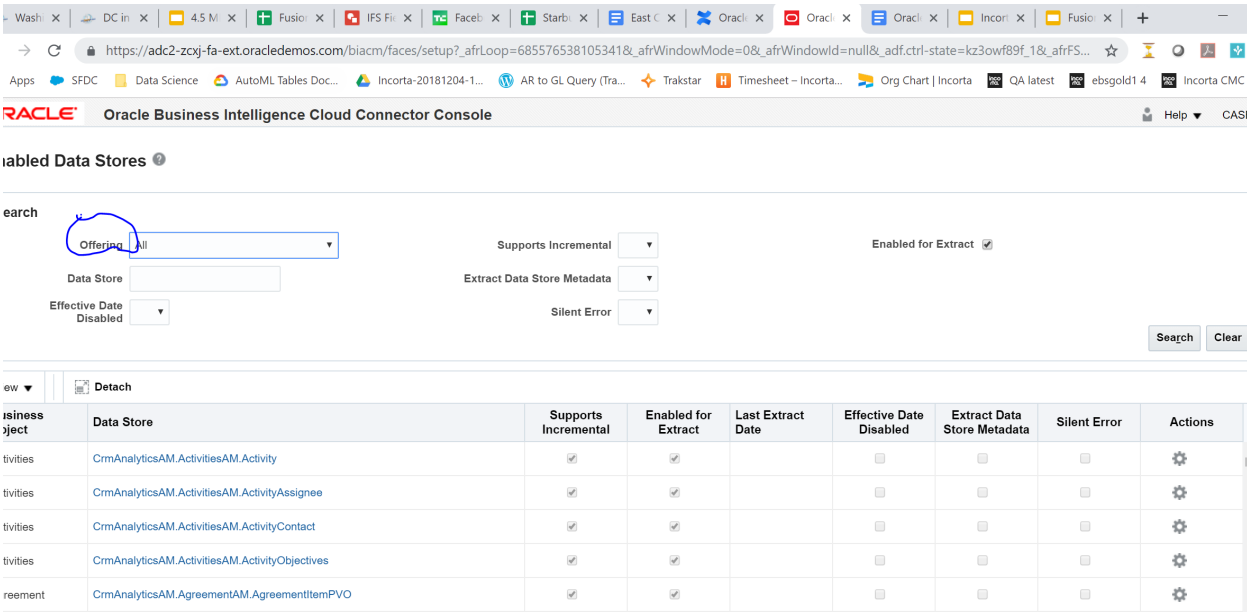
- Log into Oracle BICC , the url will be like https://adc2-zcxj-fa-ext.oracledemos.com/biacm/ , you just need to change the host name.
- Log into UCM, url be like , just change the host name - https://adc2-zcxj-fa-ext.oracledemos.com/cs/
  In the UCM screen click on the 'Search->Advanced' tab on the left hand bar and in the Security Group put OBIA% and hit search. Now you can input a string like invoiceheaderpvo on top right and search for the file.
- Log into Oracle OTBI if there is a need run any reports for finding VOs from the session log, the url will be like https://adc2-zcxj-fa-ext.oracledemos.com/analytics/

Install Summary

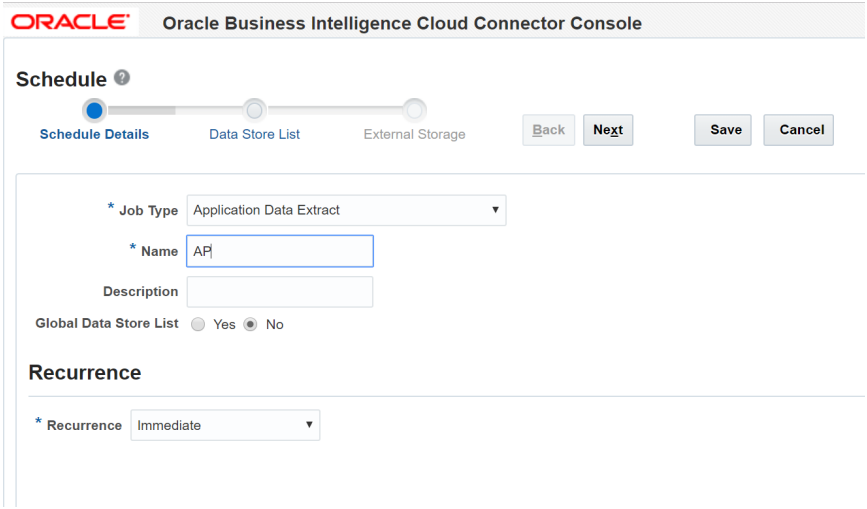
- **Optional step for in-premise installs only**: Download and unzip the Oracle CloudERP archive , it has the tenant zip, BICC customization zip file and a data folder.
- Configure Oracle BICC and run extracts to publish to Oracle UCM
- Import of Incorta tenant, configuration and loading of the schemas.

Install/Config Steps for BICC/UCM

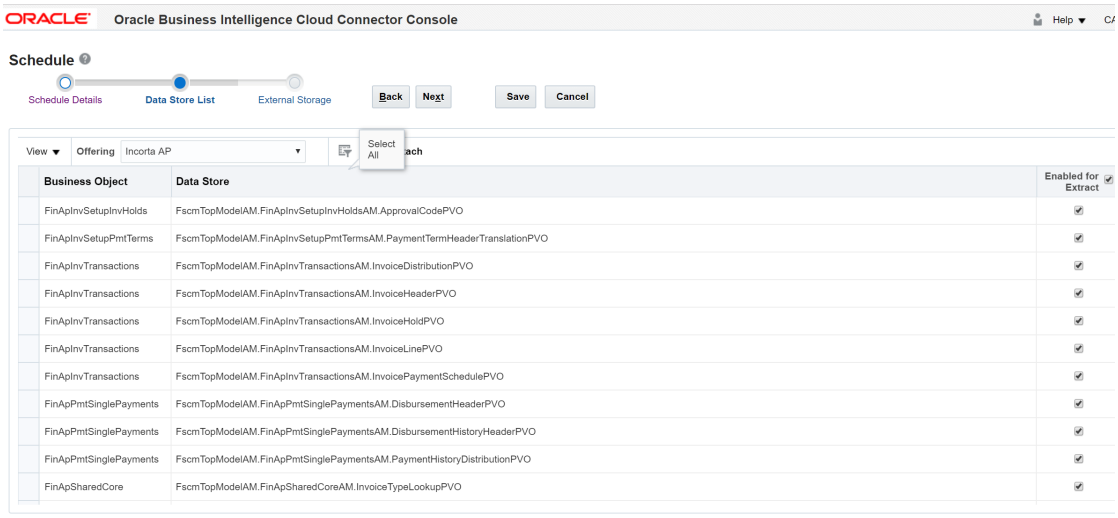
- Log into Oracle BICC , the url will be like https://adc2-zcxj-fa-ext.oracledemos.com/biacm/ , you just need to change the host name.
  - On the right hand side under Manage Offerings import the customization zip (for eg exportCustomization_2020-04-06_18_01_40.zip) file.
  - Now under offerings you will see Incorta offerings like Incorta AP etc.



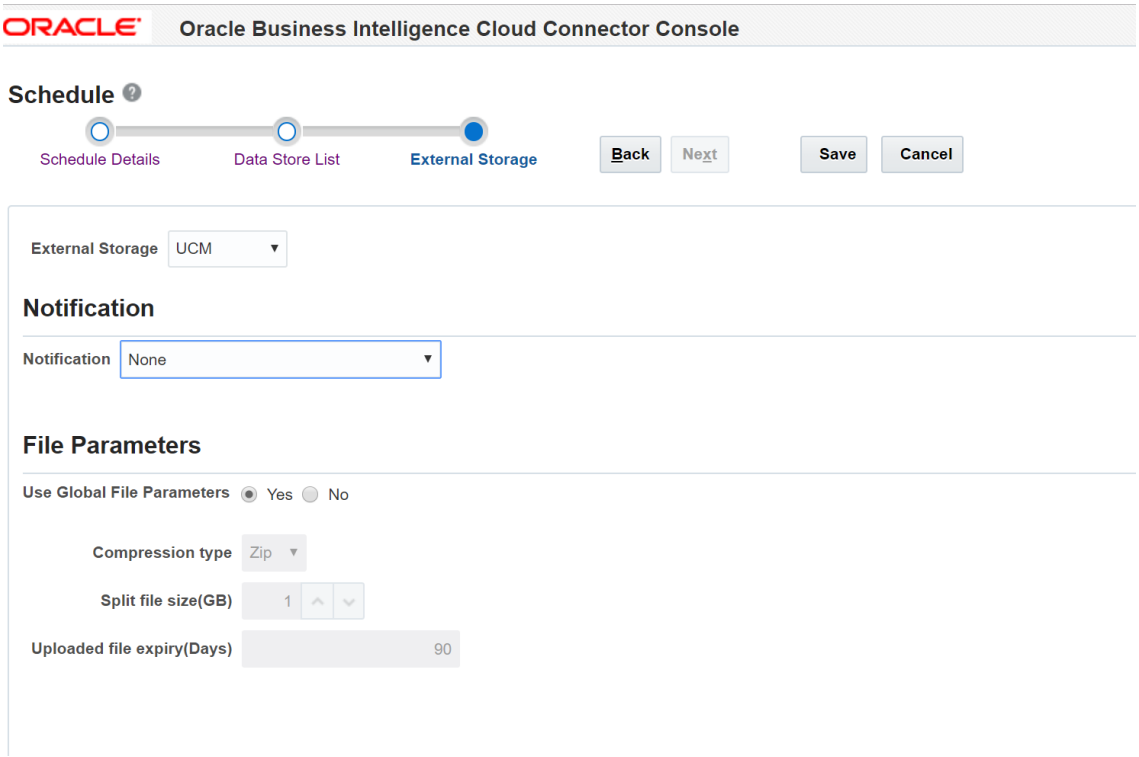
- Refer to the Offerings Matrix table below to see which objects are needed for deploying a particular module.
- You may need to **Reset the last extract date** if the customer has already run extracts in the past, click on Manage Offerings and Data Stores from the right side tool bar. Check https://docs.oracle.com/cd/E83857_01/saas/applications-common/r13-update17d/biacc/biccc-reset-last-extract-all-enabled-data-stores-dialog.html
- If you want to read only the files from a certain date (as those files may have extra fields than older ones) we can mention the start date to which we you need to extract data since that time at the data source, in the connector properties, in the "**Start Timestamp**" field, for eg the string could be: **'2019-10-15 12:00'**
- Run the relevant Incorta offerings extracts by going to Manage Extract Schedules on the right hand side
    - Click on + and select job type as 'Application Data Extract'



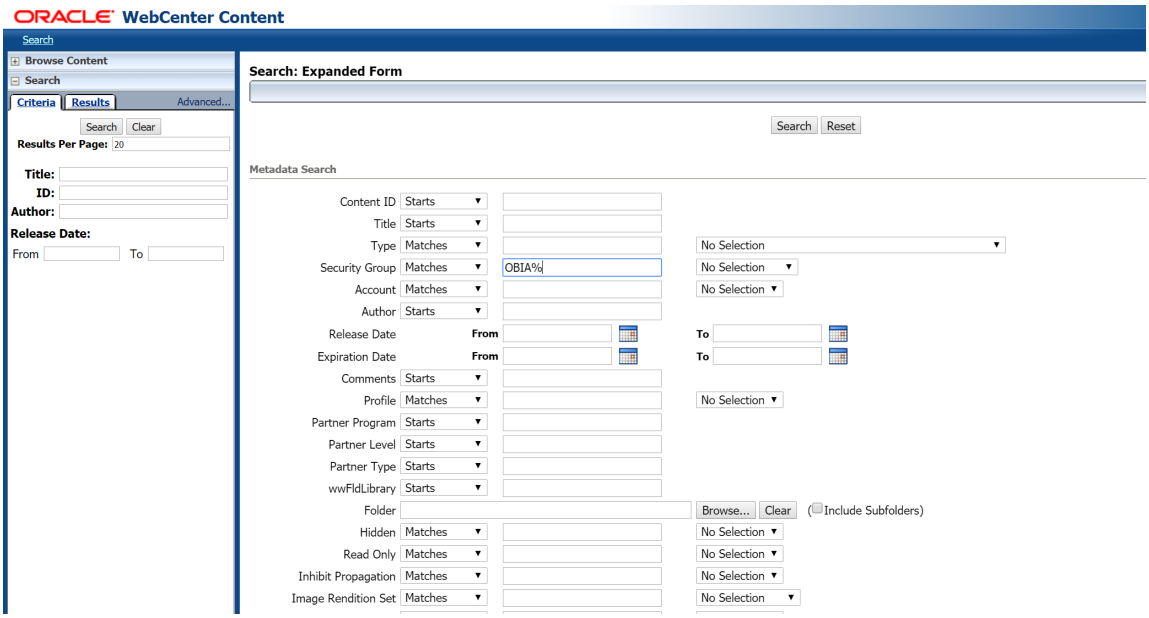
- Click on Next and select an Incorta offering, for eg Incorta AP and select ‘Enabled for Extract’ so that all the objects are selected.

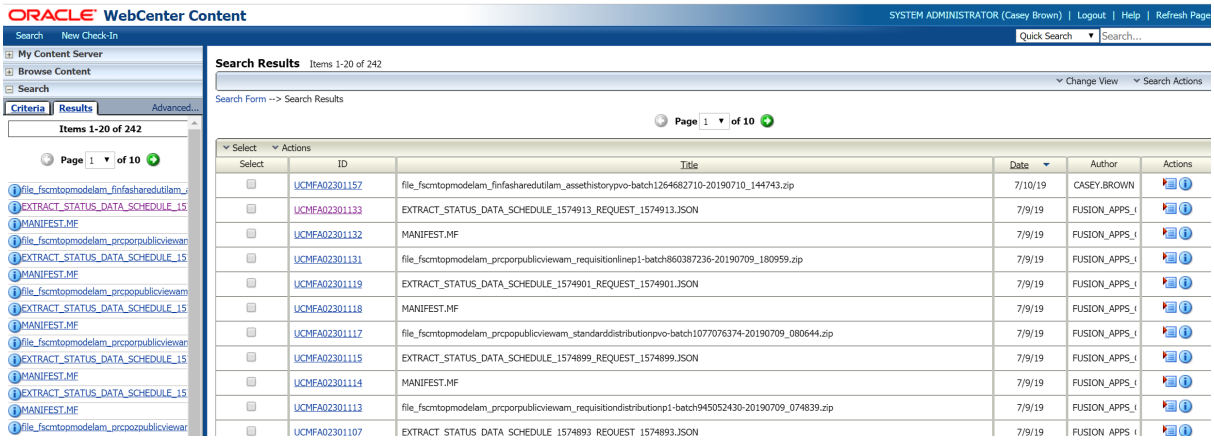


- Click Next and select storage as UCM and configure as below and hit Save.



- The extract will start running and when it is completed log into UCM , UCM url be like below url , just change the host name - https://adc2-zcxj-fa-ext.oracledemos.com/cs/idcplg?IdcService=GET_DOC_PAGE&Action=GetTemplatePage&Page=HOME_PAGE
- In the UCM screen click on the ‘Search->Advanced’ tab on the left hand bar and in the Security Group put OBIA% and hit search. Check if the .zip extract files have been generated.

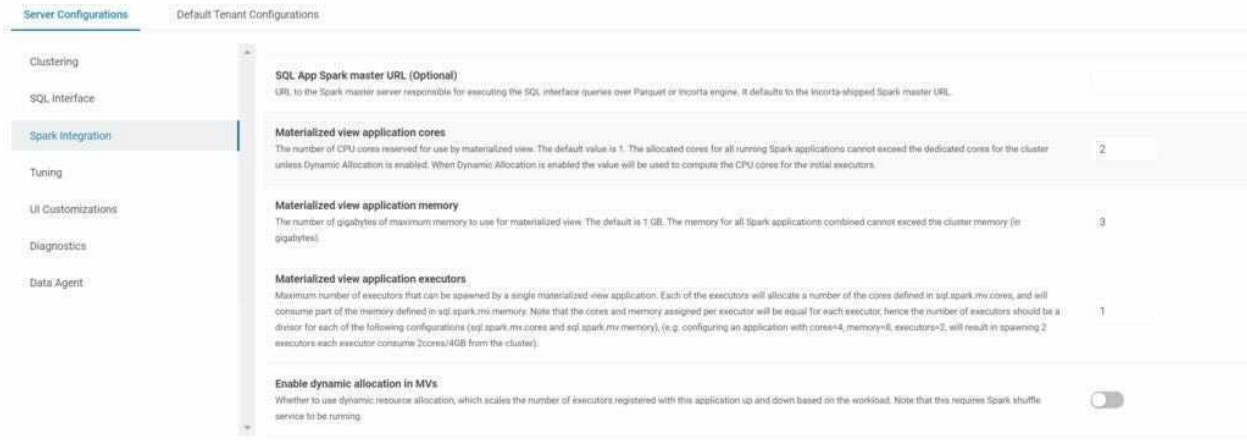
- 

- 

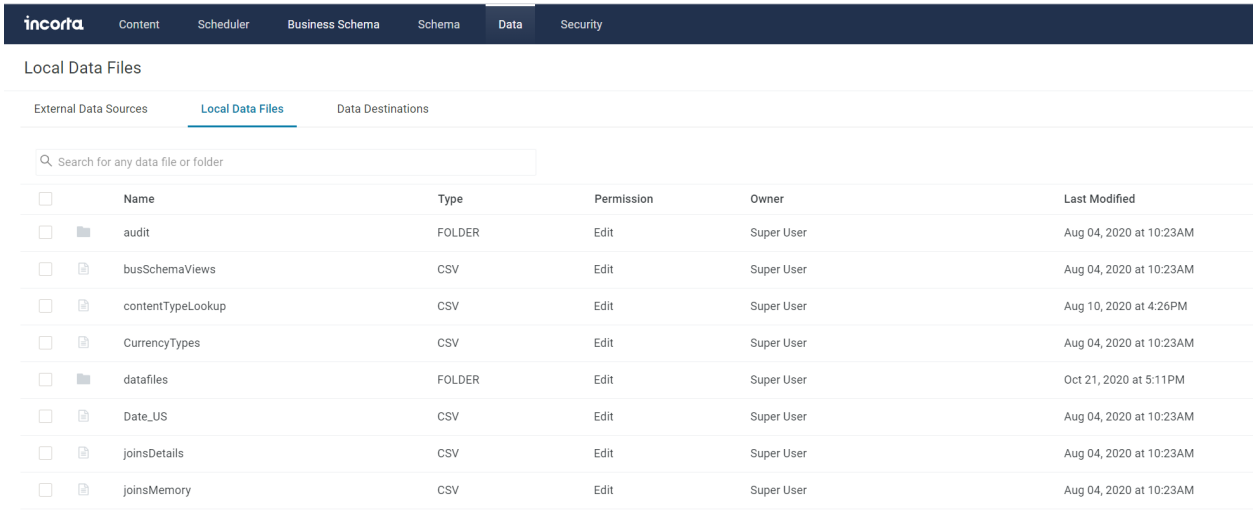
Install/Config Steps for Incorta

- Steps for new Tenant
  - Import Incorta Tenant (this will be part of the blueprint install in future)
  - Login to Incorta CMC , make sure that the loader and analytic services have at least 6 gb on heap memory, if not pls edit it and restart the services.
  - Click on Clusters-><Cluster Name>->Tenants and click on + and select the ‘Import Tenant’ option and then select the local TenantOracleCloudERP_<ver>.zip file .
  - Follow the UI steps to create the tenant
  - Now login to the newly created tenant via the Incorta UI .

- Steps for importing into existing tenant
  - Import schemas/business schemas/dashboard folders

    - Create a new oracle cloud applications connection called Fusion and configure as per the screenshot below
- Make sure that Spark has adequate memory configured and these Spark Materialized view properties are configured in CMC, depending on the data the application memory might have to be set higher.
    - 

- From the Incorta UI navigate to Data->Local Data files
    - Select New and upload with the overwrite option just the files (not the datafiles folder) from your local mydata folder in the extracted zip.
    - Now click on the datafiles folder and then Select New and upload with the overwrite option all the files in the folder ‘datafiles’ from your local mydata folder in the extracted zip.



Offerings Matrix

Sl No	Module	BICC Offerings needed	Incorta Schemas needed (run it in order)

1	Advanced Payables (AP)	Incorta Common, Incorta Finance Common, Incorta AP, Incorta PO	Fusion_CAL_COMMON Fusion_Item_Common Fusion_HR_Common, Fusion_FND_Common Fusion_FIN_Common Fusion_PARTY_COMMON, Fusion_AP, Fusion_PO
2	Accounts Receivables (AR)	Incorta Common, Incorta Finance Common, Incorta AR	Fusion_CAL_COMMON Fusion_Item_Common Fusion_HR_Common, Fusion_FND_Common Fusion_FIN_Common Fusion_PARTY_COMMON, Fusion_AR Fusion_AR_SNP Fusion_AR_MV
3	Fixed Assets (FA)	Incorta Common, Incorta Finance Common, Incorta FA	Fusion_CAL_COMMON Fusion_Item_Common Fusion_HR_Common, Fusion_FND_Common Fusion_FIN_Common Fusion_PARTY_COMMON, Fusion_FA
4	General Ledger and Sub ledgers (GL & XLA)	Incorta Common, Incorta Finance Common, Incorta GL	Fusion_CAL_COMMON Fusion_Item_Common Fusion_HR_Common, Fusion_FND_Common Fusion_FIN_Common Fusion_PARTY_COMMON, Fusion_GL Fusion_XLA, Fusion_XLA_MV
5	Inventory (INV)	Incorta Common, Incorta INV	Fusion_CAL_COMMON Fusion_Item_Common Fusion_HR_Common, Fusion_FND_Common Fusion_FIN_Common Fusion_PARTY_COMMON, Fusion_INV
6	Order Management(ONT)	Incorta Common, Incorta ONT	Fusion_CAL_COMMON Fusion_Item_Common Fusion_HR_Common, Fusion_FND_Common Fusion_FIN_Common

			Fusion_PARTY_COMMON, Fusion_ONT
7	Procurement (PO)	Incorta Common, Incorta PO	Fusion_CAL_COMMON Fusion_Item_Common Fusion_HR_Common, Fusion_FND_Common Fusion_FIN_Common Fusion_PARTY_COMMON, Fusion_PO
8	Projects (PRJ)	Incorta Common, Incorta Projects	Fusion_CAL_COMMON Fusion_Item_Common Fusion_HR_Common, Fusion_FND_Common Fusion_FIN_Common Fusion_PARTY_COMMON, Fusion_PRJ
9	HR	Incorta Common, Incorta HR	Fusion_CAL_COMMON, Fusion_HCM

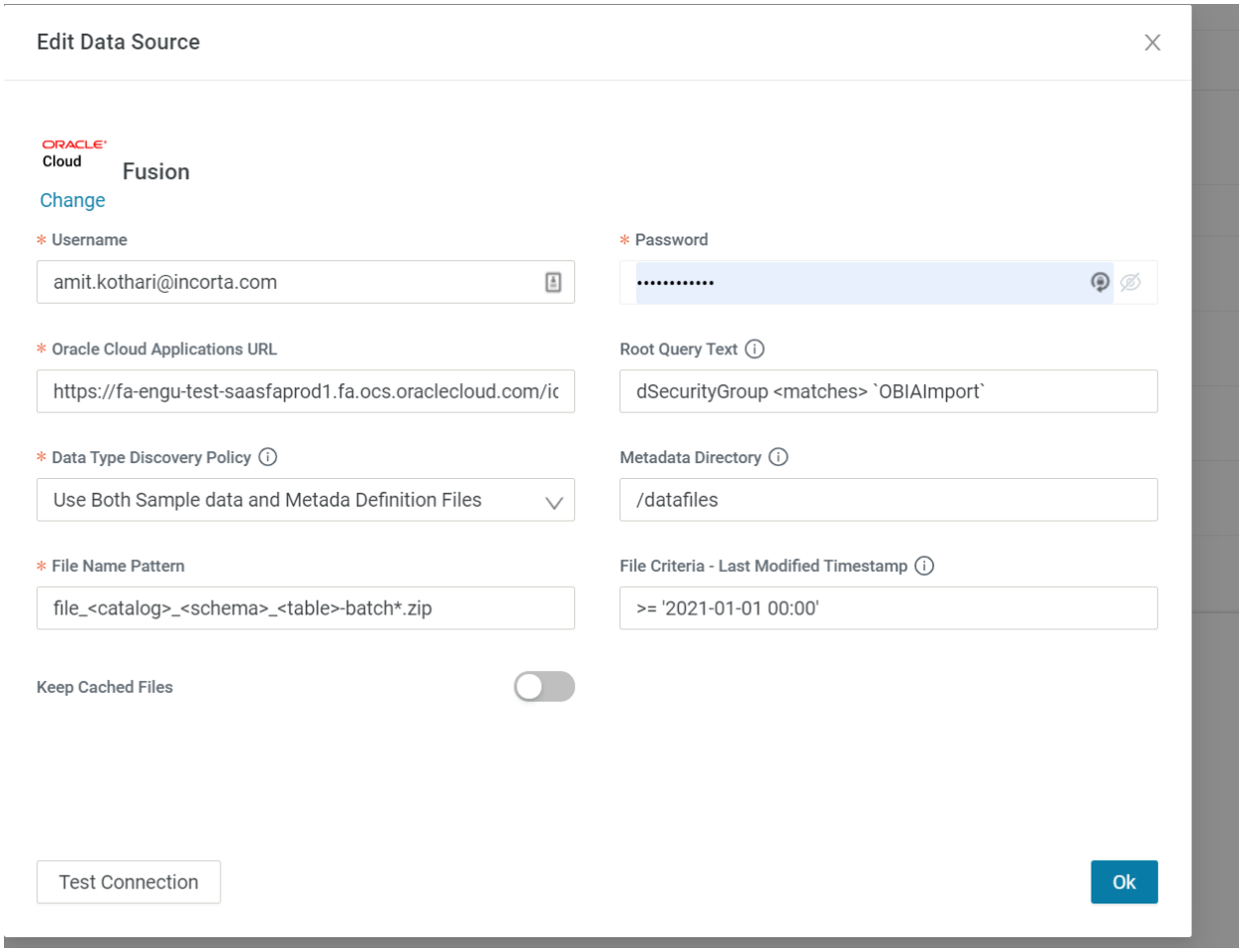
Mandatory Configurations to load customer's Fusion data

Once an Incorta Cloud instance is provisioned, the following mandatory configuration steps need to be done to view the dashboards shipped with the OOTB blueprints.

Setup Fusion UCM connection

- Login to Incorta and create or edit the 'Fusion' data connection.
- Choose which storage type (UCM or Object Storage) you want get your data from :
    - For the UCM storage:
        - Put the Fusion erp url , eg, just change the host name in the url below, https://adc2-zcxj-fa-ext.oracledemos.com/idcws/GenericSoapPort
        - Add the login and password
    - Common fields :
        - **File name pattern** : file_<catalog>_<schema>_<table>-batch*.zip
        - **Root Query Text**: dSecurityGroup <matches> `OBIAImport` (Note: To further filter we can add this if required - **<AND> dDocTitle <matches> `file_crmanalyticsam%`**)
        - Leave other options with the default values or If you want to read only the files from a certain date (as those files may have extra fields than older ones) we can add a date filter at the data source at the field **Start Timestamp**: **'2019-10-15 12:00'** which will only load files created/modified since this date.

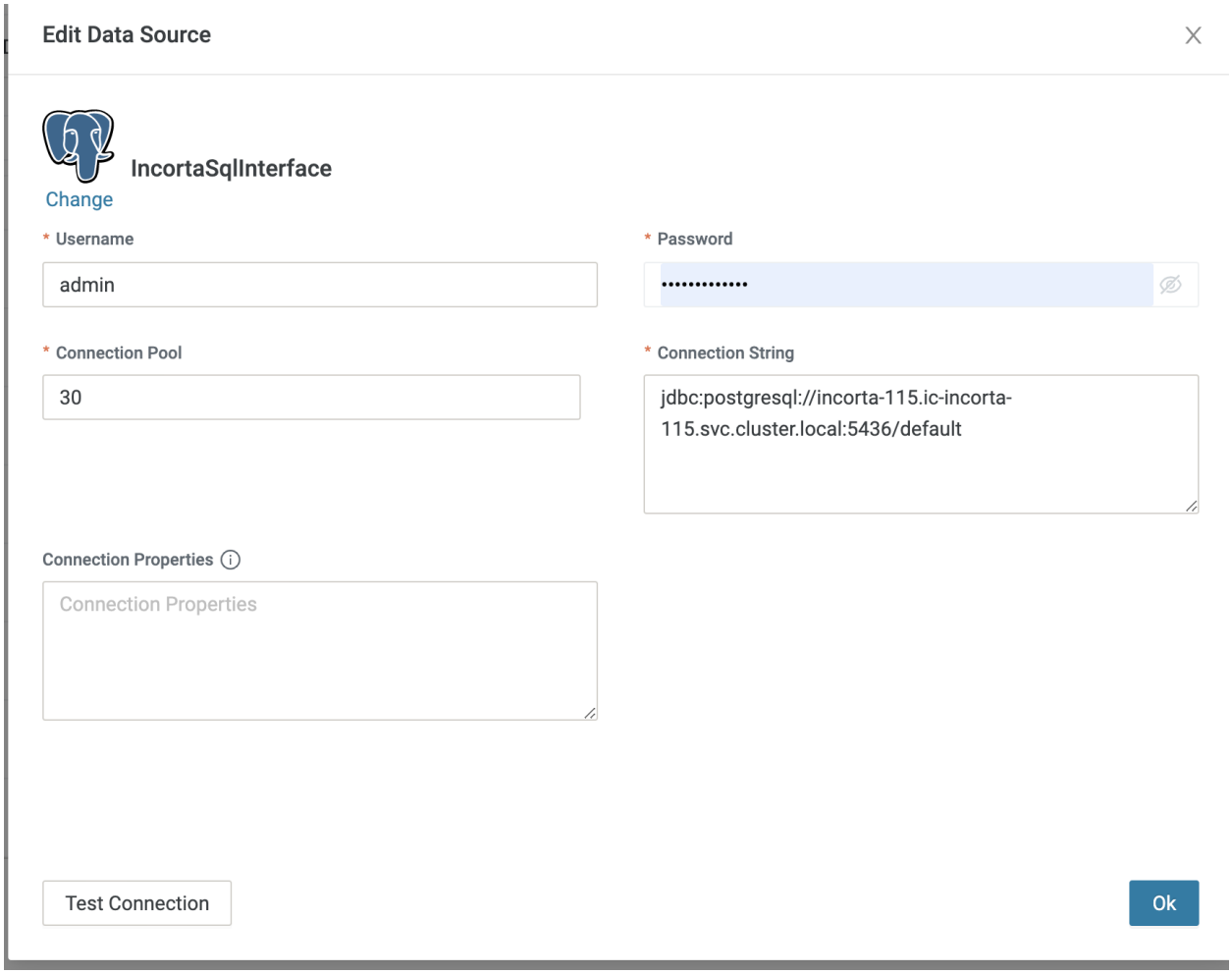
- **Metadata folder : /datafiles**



- For Object Storage Please check the Appendix below
- Now we can proceed with the schema loads starting with the common ones. Refer to the offerings table below to see which schemas we need to load.

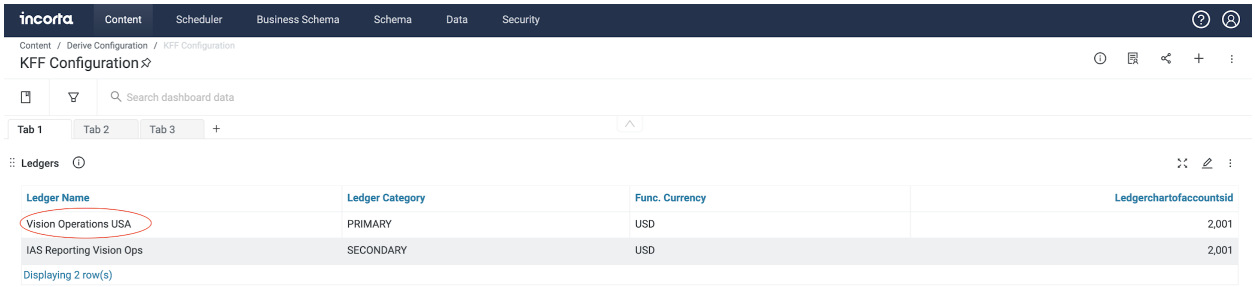
Configure Spark Data Source

Configure SparkSQL data source - For details refer to: https://incorta.atlassian.net/wiki/spaces/INC/pages/1422492053/Cloud+Blueprint+Integration. Open the OOTB data source named “IncortaSqlInterface” and copy the login/pwd and URL in that connection for the SparkSQL connection

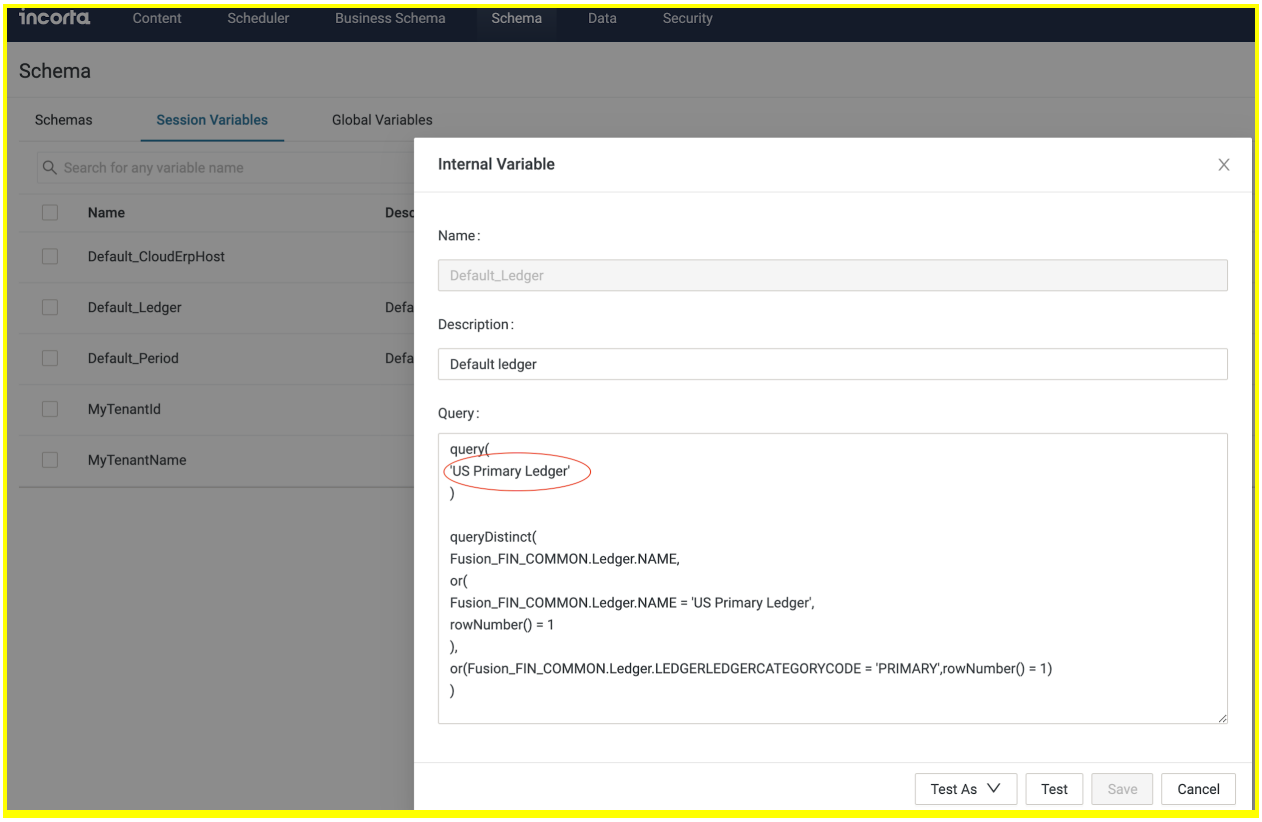


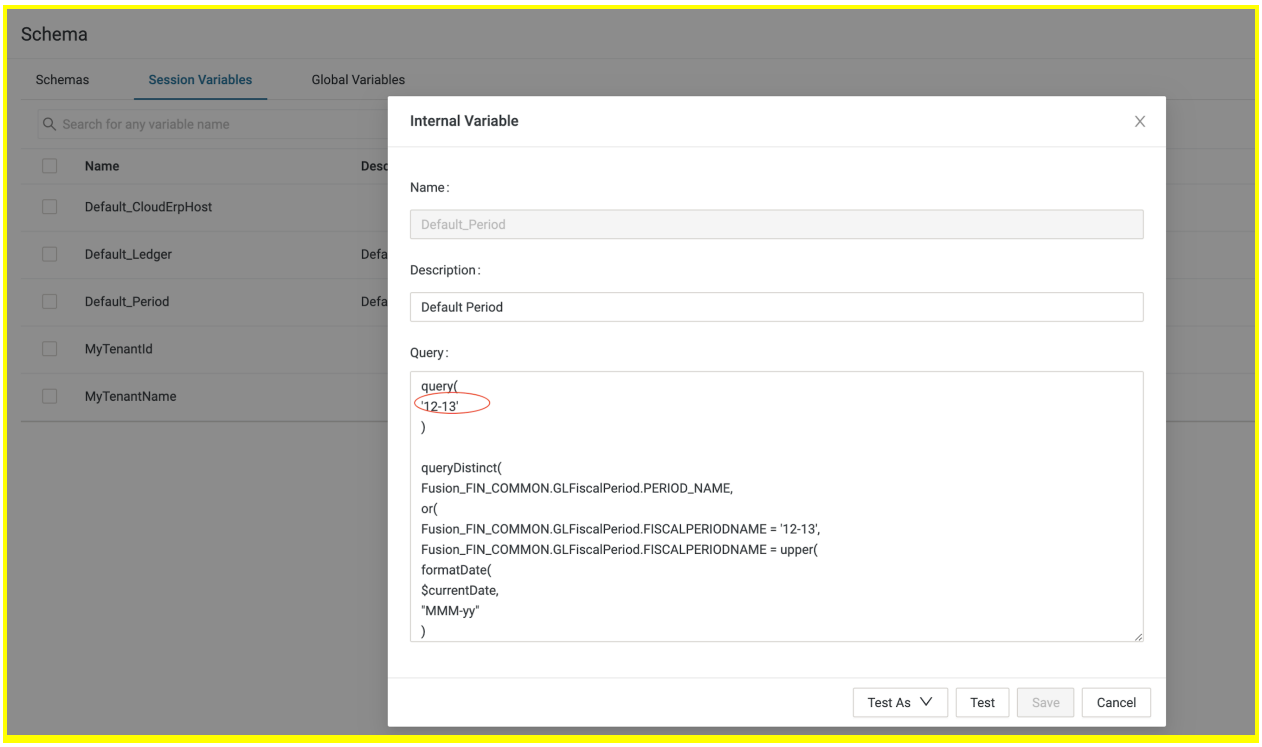
Configure seeded Session Variables

Please configure the default values of these two Incorta session variables,
Default_Ledger: You can get all ledger names from the Fusion_FIN_Common.Ledger table and then ask the customer for the default.
Default_Period: You can get all period names from the Fusion_FIN_Common.GLFiscalPeriod table and then ask the customer for the default.



Create an insight to view the Ledger and GLFiscalPeriod schema tables to look at the values and ask the customer which one should be picked for reporting. You can also do a preview of the data from the schema.

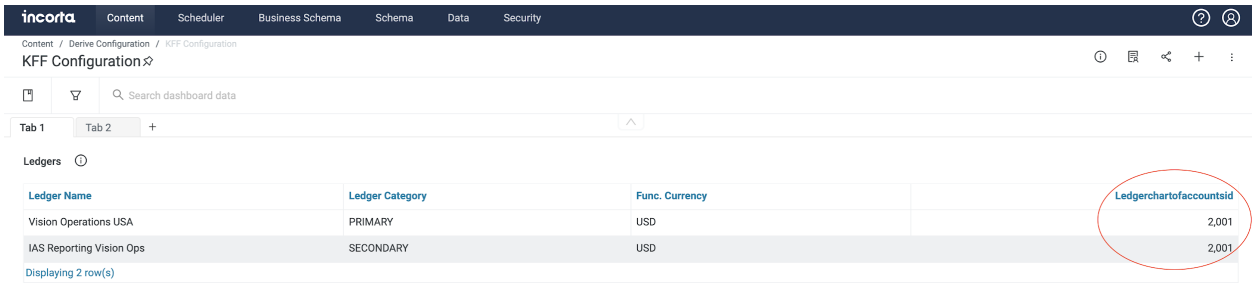




Configure GL Account KFF

Determine which Chart of Accounts should be used for reporting

Most customers will already know which chart of accounts they want to use for their reporting. Customers can query the Fusion_FIN_Common.Ledger table by creating an insight in Incorta to determine which chart_of_account_id to use.

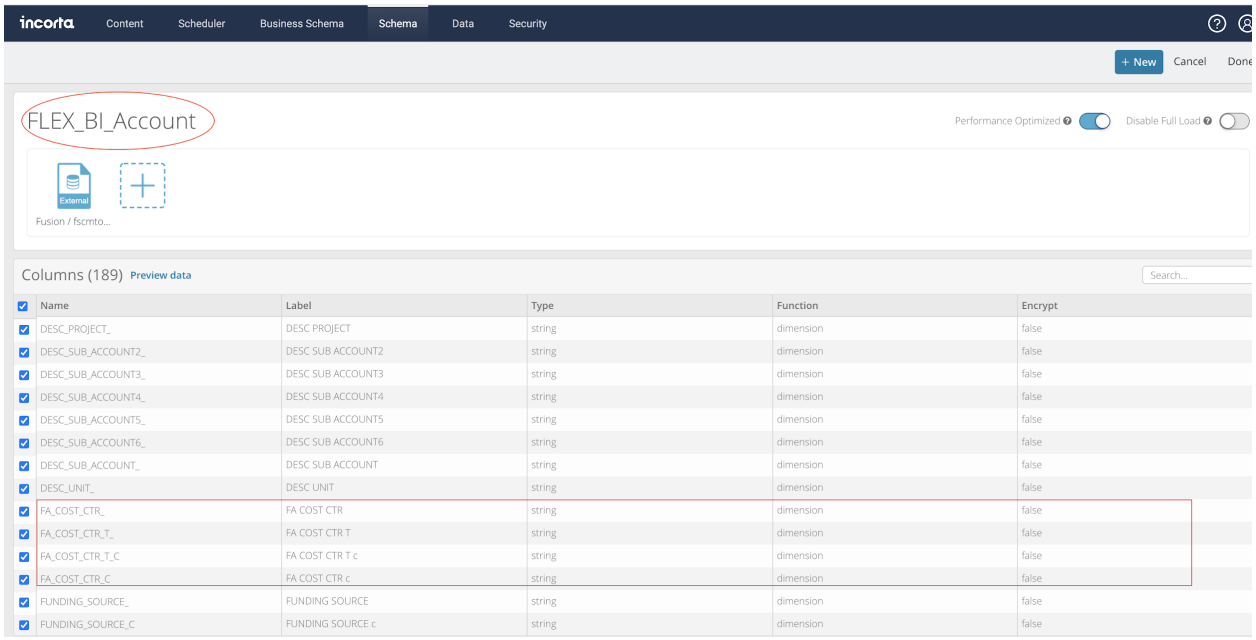


Get the list of segments used by customer after loading the latest VO extracts from UCM

In most cases customers will know which segments they want to pick for reporting. In Oracle fusion, the account VO is already flattened and has the list of qualifying segments. Customer has to:

a) Re-Import the VO “fscmtopmodelam.accountbiam.flex_bi_account_vi” to refresh it to reflect the customer’s implementation (note that this has to be done for all VOs that have a later extract post loading the data into Incorta)

b) View the table to see the columns Fusion_FIN_Common.FLEX_BI_Account (for Phase 2 we will read the information from the mdcsv files)



The example highlighted is the Cost center qualifying segment. Each segment will have a list of columns. For example:

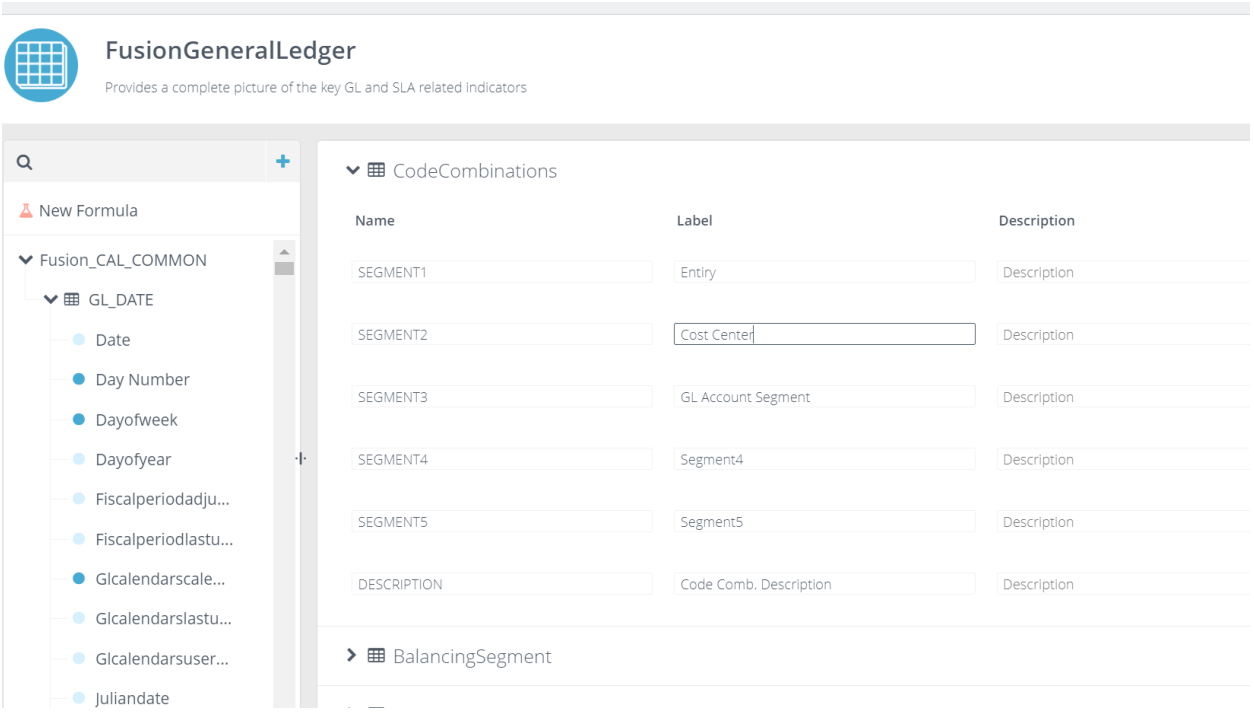
FA_COST_CTR_
FA_COST_CTR_c
FA_COST_CTR_T_
FA_COST_CTR_T_c
DESC_FA_COST_CTR_
KEY_FA_COST_CTR_0

Update the Business Views to reflect customer’s implementation

Once the segments needed for reporting are identified, update the business view to reflect the customer’s configuration.

In the FusionGeneralLedger Business schema make sure that the correct segment columns from the code combinations table are mapped to the Entity, Cost Center and Account segments

fields in the business schema. For eg out of the box we have mapped segment2 for cost center but in the customer's instance it could be segment3 etc.



If additional business views are needed for additional qualifying segments (only 3 are supported in the OOTB blueprints), add new business views. FOr example create a new business view called product and put all the columns in that view for that segment. IF the segment has no hierarchy, then just add the <segment name>_c and DESC_<segment_name> columns into the business view.

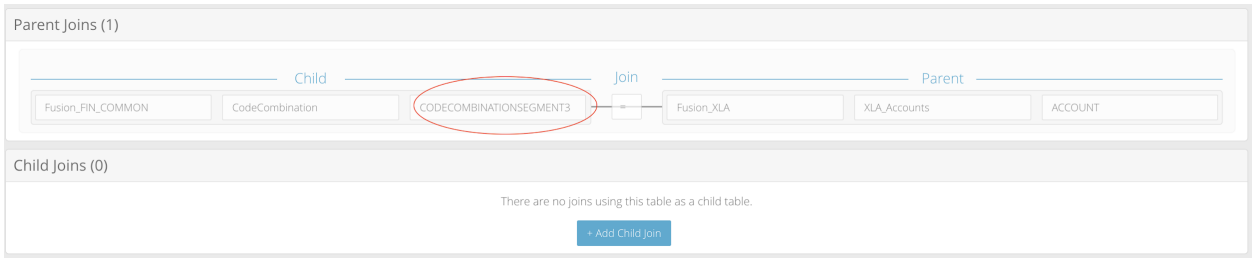
If the segment has a hierarchy, the hierarchy is already flattened in the VO. Add all the columns for each level in the hierarchy to the business view. Eg. Product view. - add 2 columns per level like product 1-5)

Update join Between Fusion_XLA.XLA Accounts table and Fusion_FIN_COMMON.CodeCombination table

Fusion_XLA.XLA Accounts table - This Incorta table holds the accounts per module like AP/AR etc (used in the GL reconciliation dashboards)

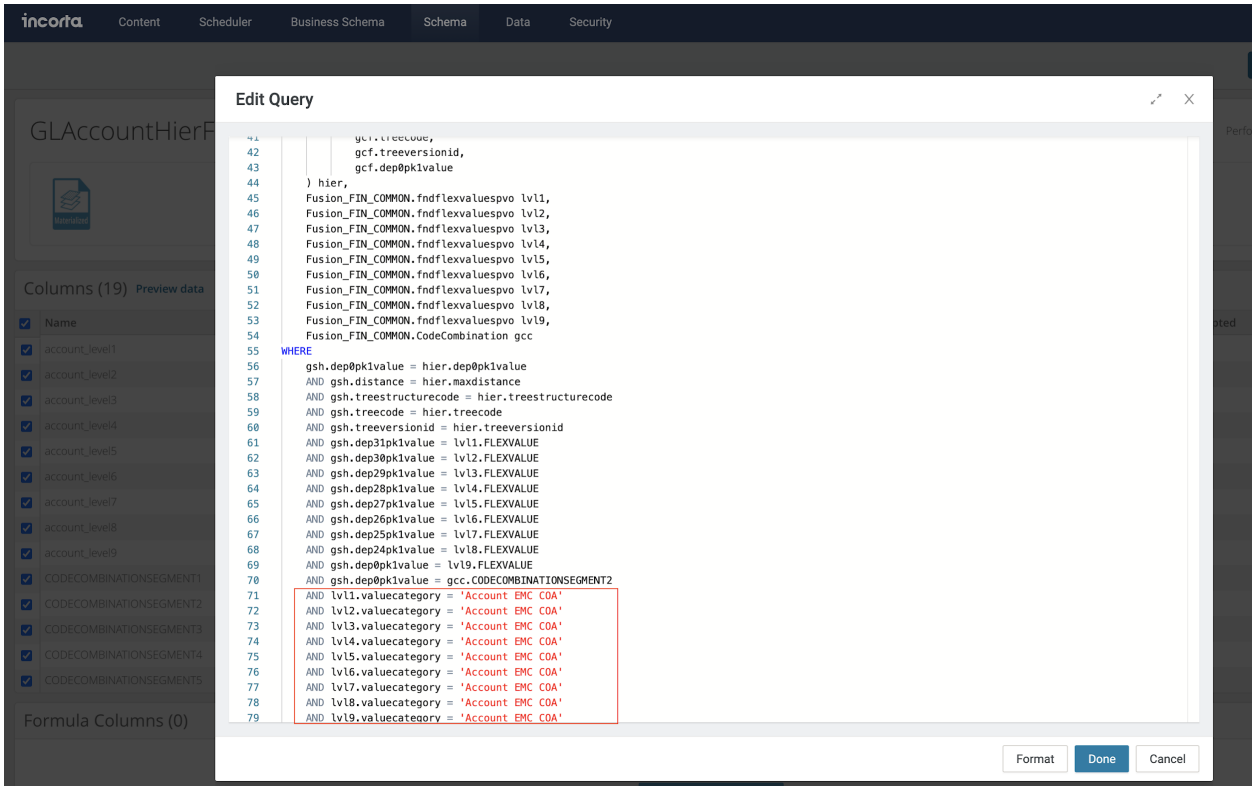
1. Please edit the table and select the correct segment field for the Account, out of the box we have selected segment3 . Save and load the table

2. We need to make sure that the correct segment from the Fusion_FIN_Common.CodeCombination table is joined to it as that is dependent on how the customer has configured the ERP, for eg if segment2 is the accounting segment then update the join below to segment2 .



Update the chart of accounts in the MV GLAccountHierFlat in the Fusion_FIN_Common schema

Update the chart of accounts and tree code in the MV named GLAccountHierFlat in the Fusion_FIN_Common schema as shown below to reflect the customer's chart of accounts and tree code. Also check and update the segment columns used.




```
        gcf.treeversionid,
        gcf.dep0pk1value
    ) hier,
    Fusion_FIN_COMMON.fndflexvaluespvo lvl1,
    Fusion_FIN_COMMON.fndflexvaluespvo lvl2,
    Fusion_FIN_COMMON.fndflexvaluespvo lvl3,
    Fusion_FIN_COMMON.fndflexvaluespvo lvl4,
    Fusion_FIN_COMMON.fndflexvaluespvo lvl5,
    Fusion_FIN_COMMON.fndflexvaluespvo lvl6,
    Fusion_FIN_COMMON.fndflexvaluespvo lvl7,
    Fusion_FIN_COMMON.fndflexvaluespvo lvl8,
    Fusion_FIN_COMMON.fndflexvaluespvo lvl9,
    Fusion_FIN_COMMON.CodeCombination gcc
WHERE
    gsh.dep0pk1value = hier.dep0pk1value
    AND gsh.distance = hier.maxdistance
    AND gsh.treestructurecode = hier.treestructurecode
    AND gsh.treecode = hier.treecode
    AND gsh.treeversionid = hier.treeversionid
    AND gsh.dep31pk1value = lvl1.FLEXVALUE
    AND gsh.dep30pk1value = lvl2.FLEXVALUE
    AND gsh.dep29pk1value = lvl3.FLEXVALUE
    AND gsh.dep28pk1value = lvl4.FLEXVALUE
    AND gsh.dep27pk1value = lvl5.FLEXVALUE
    AND gsh.dep26pk1value = lvl6.FLEXVALUE
    AND gsh.dep25pk1value = lvl7.FLEXVALUE
    AND gsh.dep24pk1value = lvl8.FLEXVALUE
    AND gsh.dep0pk1value = lvl9.FLEXVALUE
    AND gsh.dep0pk1value = gcc.CODECOMBINATIONSEGMENT2
    AND lvl1.valuecategory = 'Account EMC COA'
    AND lvl2.valuecategory = 'Account EMC COA'
    AND lvl3.valuecategory = 'Account EMC COA'
    AND lvl4.valuecategory = 'Account EMC COA'
    AND lvl5.valuecategory = 'Account EMC COA'
    AND lvl6.valuecategory = 'Account EMC COA'
    AND lvl7.valuecategory = 'Account EMC COA'
    AND lvl8.valuecategory = 'Account EMC COA'
    AND lvl9.valuecategory = 'Account EMC COA'
```

Example:

Edit the SQL in the MV and replace the right treeversionname, the right code combination segment to join on (in our example we use segment 3 for account) and the right valuecategory for the segment. These are highlighted in the SQL below.

```
SELECT
   gsh.dep31pk1value || ' - ' || lvl1.DESCRIPTION AS account_level1,
   gsh.dep30pk1value || ' - ' || lvl2.DESCRIPTION AS account_level2,
   gsh.dep29pk1value || ' - ' || lvl3.DESCRIPTION AS account_level3,
   gsh.dep28pk1value || ' - ' || lvl4.DESCRIPTION AS account_level4,
   gsh.dep27pk1value || ' - ' || lvl5.DESCRIPTION AS account_level5,
   gsh.dep26pk1value || ' - ' || lvl6.DESCRIPTION AS account_level6,
   gsh.dep25pk1value || ' - ' || lvl7.DESCRIPTION AS account_level7,
   gsh.dep24pk1value || ' - ' || lvl8.DESCRIPTION AS account_level8,
   gsh.dep0pk1value || ' - ' || lvl9.DESCRIPTION AS account_level9,
   gcc.CODECOMBINATIONSEGMENT1,
   gcc.CODECOMBINATIONSEGMENT2,
   gcc.CODECOMBINATIONSEGMENT3,
   gcc.CODECOMBINATIONSEGMENT4,
   gcc.CODECOMBINATIONSEGMENT5,
   gcc.CODECOMBINATIONSEGMENT6,
   gcc.codecombinationid,
   lvl2.FLEXVALUE lvl2_flexvalue,
   lvl3.FLEXVALUE lvl3_flexvalue,
   lvl4.FLEXVALUE lvl4_flexvalue
FROM
   Fusion_FIN_COMMON.flex_tree_vs_gl_account_vi gsh,
   (
       SELECT
           gcf.treestructurecode,
           gcf.treecode,
           gcf.treeversionid,
           gcf.dep0pk1value,
           MAX(gcf.distance) AS maxdistance
       FROM
           Fusion_FIN_COMMON.flex_tree_vs_gl_account_vi gcf,
           Fusion_FIN_COMMON.fndtreeversiontlp1 tvt
       WHERE
           gcf.treestructurecode = tvt.treestructurecode
           AND gcf.treecode = tvt.treecode
```

```
            AND gcf.treeversionid = tvt.treeversionid
            AND tvt.treeversionname = 'Account_Tree_Current1'
        GROUP BY
            gcf.treestructurecode,
            gcf.treecode,
            gcf.treeversionid,
            gcf.dep0pk1value
    ) hier,
    Fusion_FIN_COMMON.fndflexvaluespvo lvl1,
    Fusion_FIN_COMMON.fndflexvaluespvo lvl2,
    Fusion_FIN_COMMON.fndflexvaluespvo lvl3,
    Fusion_FIN_COMMON.fndflexvaluespvo lvl4,
    Fusion_FIN_COMMON.fndflexvaluespvo lvl5,
    Fusion_FIN_COMMON.fndflexvaluespvo lvl6,
    Fusion_FIN_COMMON.fndflexvaluespvo lvl7,
    Fusion_FIN_COMMON.fndflexvaluespvo lvl8,
    Fusion_FIN_COMMON.fndflexvaluespvo lvl9,
    Fusion_FIN_COMMON.CodeCombination gcc
WHERE
    gsh.dep0pk1value = hier.dep0pk1value
    AND gsh.distance = hier.maxdistance
    AND gsh.treestructurecode = hier.treestructurecode
    AND gsh.treecode = hier.treecode
    AND gsh.treeversionid = hier.treeversionid
    AND gsh.dep31pk1value = lvl1.FLEXVALUE
    AND gsh.dep30pk1value = lvl2.FLEXVALUE
    AND gsh.dep29pk1value = lvl3.FLEXVALUE
    AND gsh.dep28pk1value = lvl4.FLEXVALUE
    AND gsh.dep27pk1value = lvl5.FLEXVALUE
    AND gsh.dep26pk1value = lvl6.FLEXVALUE
    AND gsh.dep25pk1value = lvl7.FLEXVALUE
    AND gsh.dep24pk1value = lvl8.FLEXVALUE
    AND gsh.dep0pk1value = lvl9.FLEXVALUE
    AND gsh.dep0pk1value = gcc.CODECOMBINATIONSEGMENT3
    AND lvl1.valuecategory = 'Account'
    AND lvl2.valuecategory = 'Account'
    AND lvl3.valuecategory = 'Account'
    AND lvl4.valuecategory = 'Account'
    AND lvl5.valuecategory = 'Account'
```

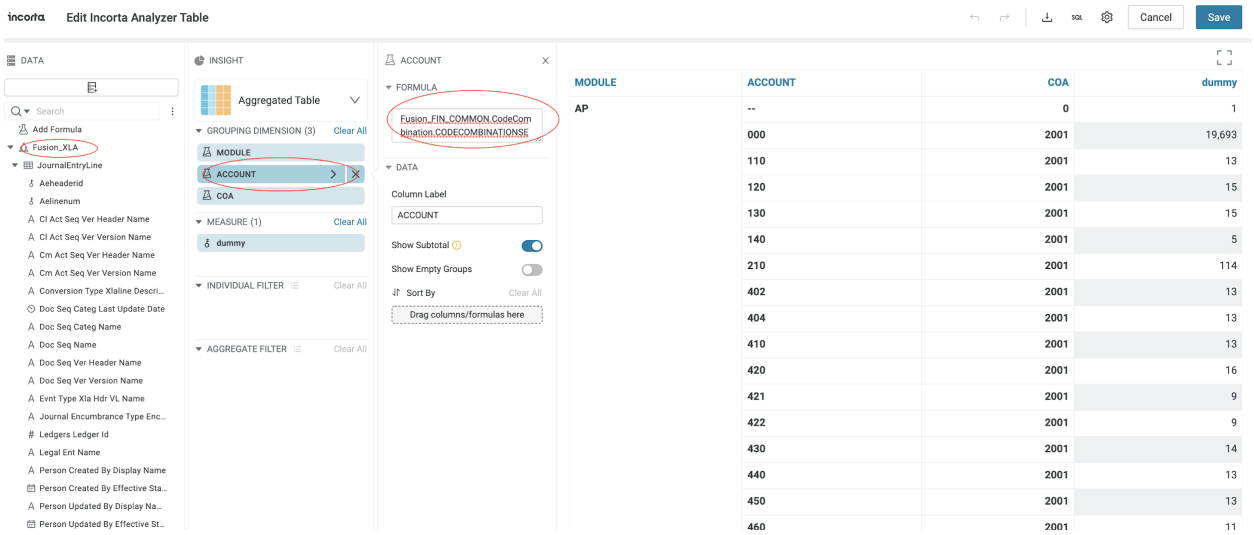
```
    AND lvl6.valuecategory = 'Account'
    AND lvl7.valuecategory = 'Account'
    AND lvl8.valuecategory = 'Account'
    AND lvl9.valuecategory = 'Account'
```

Load the MV GLAccountHierFlat in the Fusion_FIN_Common schema

Load the MV GLAccountHierFLat in the Fusion_FIN_Common Schema. This will refresh the data to reflect the customer's configuration.

Update Reconciliation Incorta Analyzer table to reflect correct Account segment column

The OOTB blueprint uses Segment 2 for Account. If a customer uses a different segment column, the Incorta Analyzer table named "XLA_Accounts" in Fusion_XLA schema needs to be updated to reflect this.



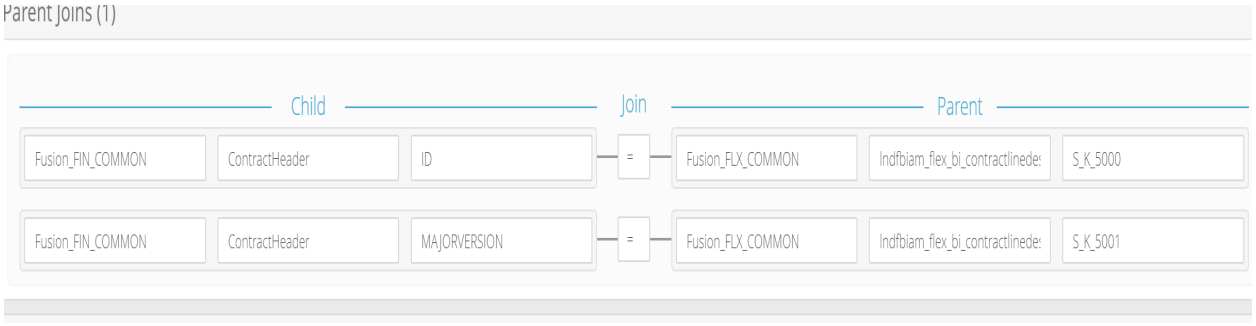
Other Optional Configurations

Configure Descriptive Flexfields (DFFs)

A flexfield is a set of placeholder fields (segments) that are associated with a business object. Oracle Cloud ERP Applications provides three types of flexfields — descriptive, extensible, and

key. This section describes how we can support a descriptive flexfield (DFF) like Attribute1 etc for a particular table in Incorta -

- In the oracle cloud erp there will be a separate VO object for a table's flexfields, for eg for the ContractHeaderP VO the flex VO is called: FscmTopModelAM.ContractsCoreAM.HdrDFBIAM.FLEX_BI_ContractHeaderFlexfield_V , so find out the flexfield VO first.
- Look at the section 'Adding new Fusion ERP table in Incorta' in https://docs.google.com/document/d/1W6jOrqJw7FzNKUWHjs3Tqw5N6kpdUB3PbynhWK18ZT0/edit#heading=h.c1dj4o3t0hej on how to import this VO into Incorta, please note the key fields, they will be like S_K_5000 etc
- Join this VO as a parent table to the base VO , use the key columns of the Base VO to join column named like S_K_5000 in the flex VO .



- Add the DESC_ field from the flex VO into a business schema and add the appropriate label . For eg in the contractHeader the end user dff column name may be called ProjectMarket and the flexfield value field in the VO would be called as DESC_PROJECTMARKET_ . So we can add the label as 'Project Market'
- Load the VO
- NOTE: We have included some DFF VOs in the Fusion_FLX_Common schema, since flex VOs are deployment specific you would need to extract the existing flex VO in BICC, then download the mdcsv file from BICC, upload to Incorta (as per the instructions in 'Adding new Fusion ERP table in Incorta section) , and save the flex VO in Incorta to get the updated fields.
- If no fields are selected in the flex VO please edit the VO in BICC , do a select all and save the VO.
- If you don't see some flex VOs in BICC then the customer needs to deploy the DFFs from the fusion app .
    - For FlexFields to be available in BI, you need to do the following in the Fusion app:
        - 1. Go to Manage Descriptive FlexFields task
        - 2. Query the DFF CODE
        - 3. Go to edit and find needed attributes
        - 4. Edit the attribute, you will find a "BI Enabled" check box
        - 5. Customer need to enable this check box, save it

- 6. Deploy that flex code
- 7. Run "Import Oracle Fusion Data Extensions for Transactional Business Intelligence" Ess job
- Once the above is processed, the flexfields should be available for extract in BICC
- Refer to steps 1-3 of this Oracle blog for more info - https://blogs.oracle.com/biapps/including-fusion-on-cloud-extensions-in-bi apps-part-2

Few flexfield VOs -

DESCRIPTIVE_FLEXFIELD_NAME	Flex VO Name	Base VO (will be child)	APPLICATION_TABLE_NAME
CE_EXTERNAL_TRANSACTIONS	FscmTopModelAM.ExternalTransactionBIAM.FLEX_BI_ExternalTransaction_VI	FscmTopModelAM.FinCeCashTransactionsAM.ExternalTransactionsPVO	CE_EXTERNAL_TRANSACTIONS
ContractHeaderFlexfield	FscmTopModelAM.ContractsCoreAM.HdrDFBIAM.FLEX_BI_ContractHeaderFlexfield_VI	FscmTopModelAM.ContractsCoreAM.ContractHeaderP	OKC_K_HEADERS_ALL_B
ContractLineFlexfield	fscmtopmodelam.contractscoream.lndfbiam_flex_bi_contractlinedescflexfield_vi	FscmTopModelAM.ContractsCoreAM.ContractHeaderLinesP	OKC_K_LINES_ALL_B
EGP_SYSTEM_ITEMS_DFF	FscmTopModelAM.EgpItemsPublicModelAM.ItemBaseDFFBIAM.FLEX_BI_ItemBaseDFF_VI	FscmTopModelAM.EgpItemsPublicModelAM.Item	EGP_SYSTEM_ITEMS_B
INV_MATERIAL_TXNS	FscmTopModelAM.InxTxnDFFBIAM.FLEX_BI_InxTxnDFF_VI	FscmTopModelAM.InventoryAM.InventoryTransactionDetailPVO	INV_MATERIAL_TXNS
PJC_EXP_ITEMS_DESC_FLEX	FscmTopModelAM.PjcEiBIAM.FLEX_BI_PjcEi_VI	FscmTopModelAM.PjctransactionstAM.expenditureitempvo	PJC_EXP_ITEMS_ALL
PJC_TXN_XFACE_DESC_FLEX	FscmTopModelAM.PjcEiBIAM.FLEX_BI_PjcEi_VI		PJC_TXN_XFACE_ALL
PJF_PROJECTS_DESC_FLEX	FscmTopModelAM.PJF_PROJECTS_ALLBIAM.FLEX_BI_PJF_PROJECTS_ALL_VI	FscmTopModelAM.PjfProjectAM.Project	PJF_PROJECTS_ALL_B

PJF_TASK_STRUCTURE_DFF	FscmTopModelAM.TaskDffBIAM.FLEX_BI_TaskDff_VI	FscmTopModelAM.PjfProjectDefinitionAM.TaskVLPVO	PJF_PROJ_ELEMENTS_B
POR_REQUISITION_HEADERS	FscmTopModelAM.RequisitionHeaderPublicBIAM.FLEX_BI_RequisitionHeaderPublic_VI	FscmTopModelAM.PrcPorPublicViewAM.RequisitionHeaderP1	POR_REQUISITION_HEADERS_ALL
POR_REQUISITION_LINES	FscmTopModelAM.RequisitionLinePublicBIAM.FLEX_BI_RequisitionLinePublic_VI	FscmTopModelAM.PrcPorPublicViewAM.RequisitionLineP1	POR_REQUISITION_LINES_ALL
POZ_SUPPLIER_SITES_ALL_M	FscmTopModelAM.PozSupplierSitesDFFPublicBIAM.FLEX_BI_PozSupplierSitesDFFPublic_VI	FscmTopModelAM.PrcPozPublicViewAM.SupplierSitePVO	POZ_SUPPLIER_SITES_ALL
PO_HEADERS	FscmTopModelAM.POHeaderDFFPublicBIAM.FLEX_BI_POHeaderDFFPublic_VI	FscmTopModelAM.PrcPoPublicViewAM.StandardHeaderPVO	PO_HEADERS_ALL
PO_LINES	FscmTopModelAM.POLineDFFPublicBIAM.FLEX_BI_POLineDFFPublic_VI	FscmTopModelAM.PrcPoPublicViewAM.StandardLinePVO	PO_LINES_ALL
RA_CUSTOMER_TRX	FscmTopModelAM.TransactionHeaderFLEXBIAM.FLEX_BI_TransactionHeaderFLEX_VI	FscmTopModelAM.FinArTopPublicModelAM.TransactionHeaderPVO	RA_CUSTOMER_TRX_ALL
RCV_TRANSACTIONS	FscmTopModelAM.RcvTxnDFBIAM.FLEX_BI_RcvTxnDF_VI	FscmTopModelAM.RcvReceiptsAM.ReceivingReceiptTransactionPVO	RCV_TRANSACTIONS

Supporting Drill to Cloud ERP Page

We can support drill to the cloud erp provided a url exists in which we can pass the id, here are some sample urls which can be configured in the url field of a insight, we just need to modify the host name -

Purchase Requisitions:
https://<host>/fscmUI/faces/FndOverview?fnd=%2FWEB-INF%2Foracle%2Fapps%2Fprc%2Fpor%2FmanageReq%2Fui%2Fflow%2FManageReqMainAreaFlow.xml%23ManageReqMainAreaFlow;paramInvokedApp%3DNOTIFICATION%3BparamReqHeaderId%{EBS_PO.PO_REQUISI

TION_HEADERS_ALL.REQUISITION_HEADER_ID};;;false;256;;;&fndGlobalItemNodeId=itemNode_my_information_purchase_requisitions

AP Invoices using deep link:
https://fa-engu-test-saasfaprod1.fa.ocs.oraclecloud.com/fscmUI/faces/deeplink?objType=AP_VIEWINVOICE&action=VIEW&objKey=InvoiceId={FusionPayablesTransactions.InvoiceHeaders.INVOICE_ID}

Please refer to this oracle doc

- https://docs.oracle.com/en/cloud/saas/procurement/20a/fapaa/setup-and-configuration.html#FAPAA3028149
- https://cloudcustomerconnect.oracle.com/posts/cbb022f02b

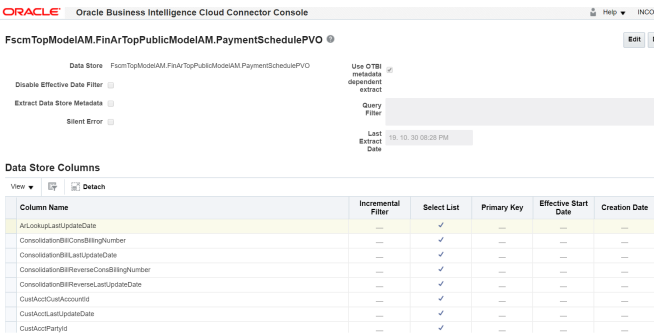
Sizing

To figure out data sizing for Oracle cloud ERP please ask the customer to create a BI Publisher report using the below sql and send us the output -

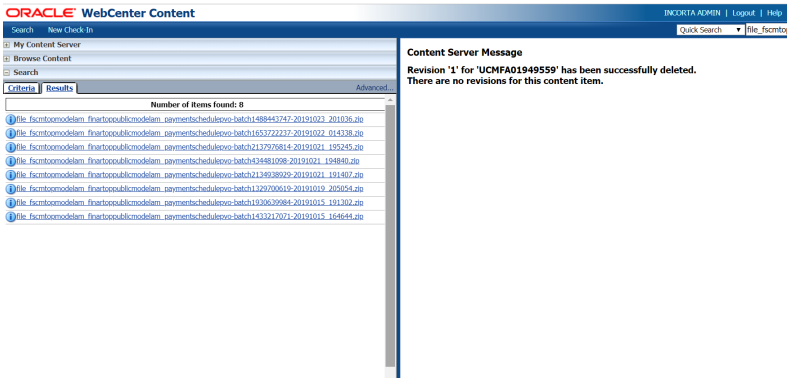
- select owner,table_name, num_rows , round(blocks*8/1024) size_mb from all_tables where owner not in ('SYS','SYSTEM') order by 1,2

Adding new fields to existing Tables in Incorta

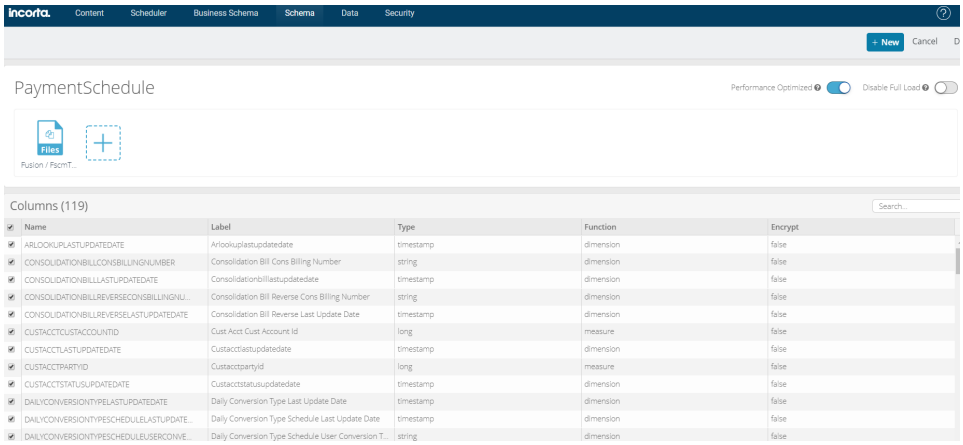
- To integrate new fields into already existing tables in Incorta, first identify if the fields are selected in the BICC offering under the specific Data Store



- Edit the view and select the fields which you want and save
- Reset to full extract by clicking on the gear icon and indicating so
- Go into UCM and search on that field (all lowercase)
    - Make sure that all files before today's date are deleted



- Back in BICC, schedule an extract for the new field and let that run
- Once it the extract has been successful, go back into Incorta and head to the table where the new field is to be added to
- Go into the schema where the table is housed and click on the files and hit save
- Select ‘Done’ and do a full load onto the table



- Once the table has loaded search on the new fields that were just added to make sure that it was successful
- Create insights with the new fields to see if they’ve been populated with data

Adding new VOs in Incorta

Customers will have situations where they want to bring in additional data from Cloud ERP systems. The main method to bring in Cloud ERP data into Incorta is through VO (View Objects). The data from VOs can be extracted from the Oracle BICC console. There are a lot of VOs pre-seeded in the BICC console which are already assigned to specific offerings and enabled for extract. However not all VOs are pre-seeded. But any VO that is in the Cloud ERP can be extracted from BICC as a custom VO extract.

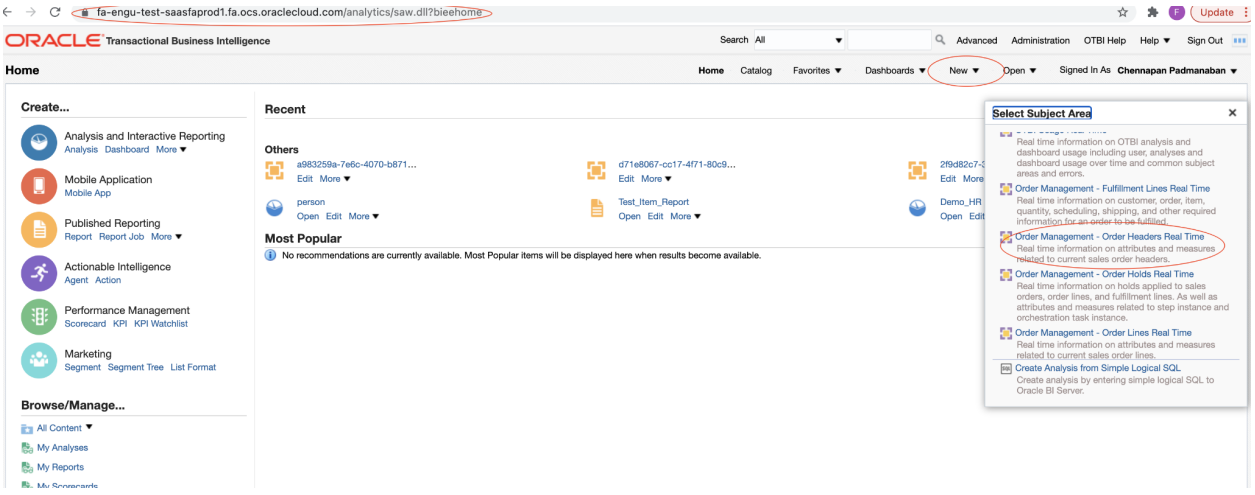
We will discuss the high level steps below:

1. Identify the VO that has the data that is needed for reporting in Incorta
2. Find the VO in BICC and if VO is not found, add the new VO to BICC (note that all VOs are not pre-seeded)
3. Extract the metadata file (MDCSV) for that VO from BICC and Upload the metadata file(MDSCV) to Incorta under datafiles folder (need to rename the file to .csv and remove the timestamp component from the name of the file)
4. Extract data for that VO from BICC into UCM
5. Create the table corresponding to the new VO being added in Incorta
6. Add the required joins to the new table in Incorta
7. Load the new table corresponding to the new VO in Incorta
8. Once loaded, you can use the new tables in the Incorta dashboards

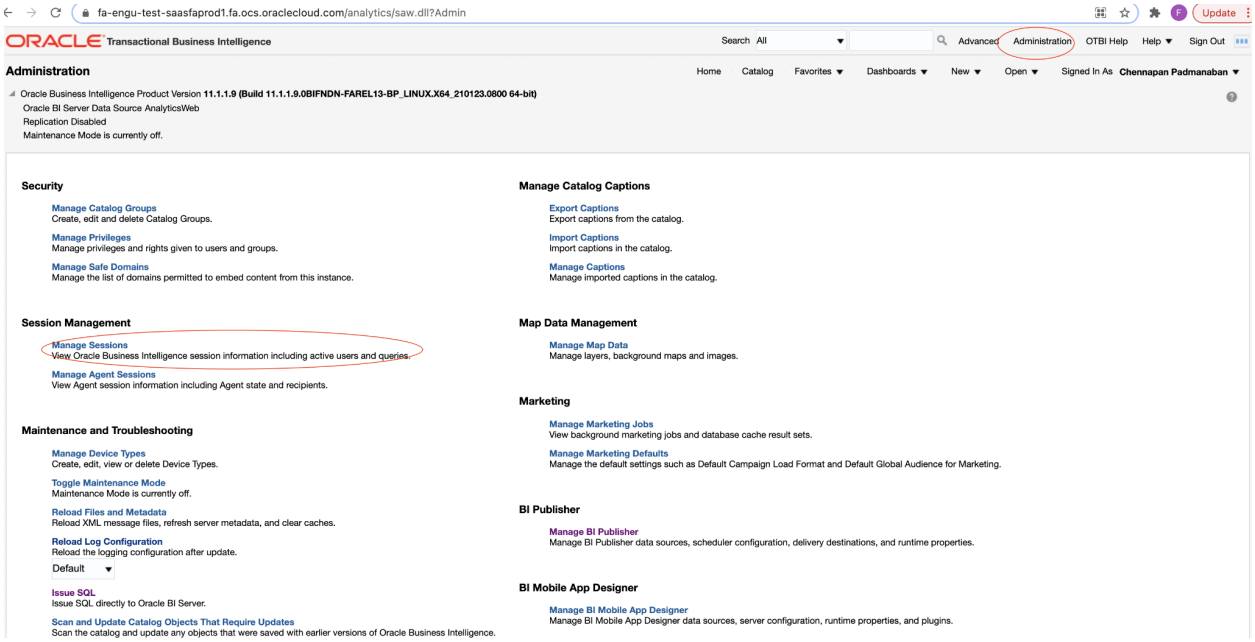
We will discuss detailed steps below.

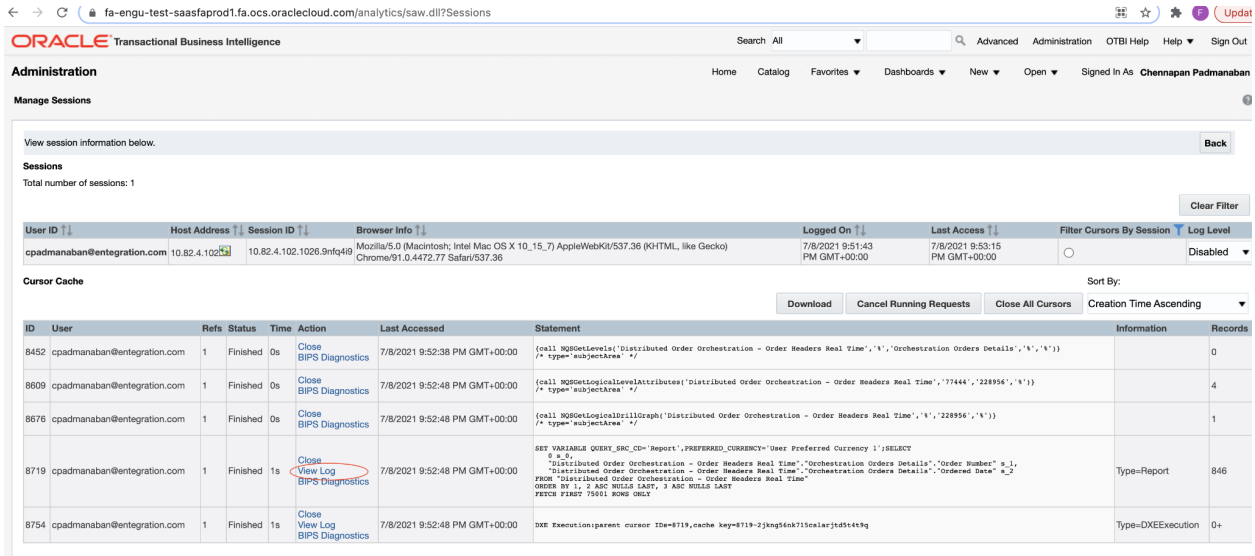
Identify the VO that has the data that is needed for reporting in Incorta

- Either create an Oracle OTBI report on the Subject area of interest or Run an existing OTBI report to get the Session log from the OTBI Administration page.
- Examine the log to get the list of VO objects. The log also has details on how a VO joins to other VOs
- See steps with screenshots below



Go to Administration -> Manage sessions and view log



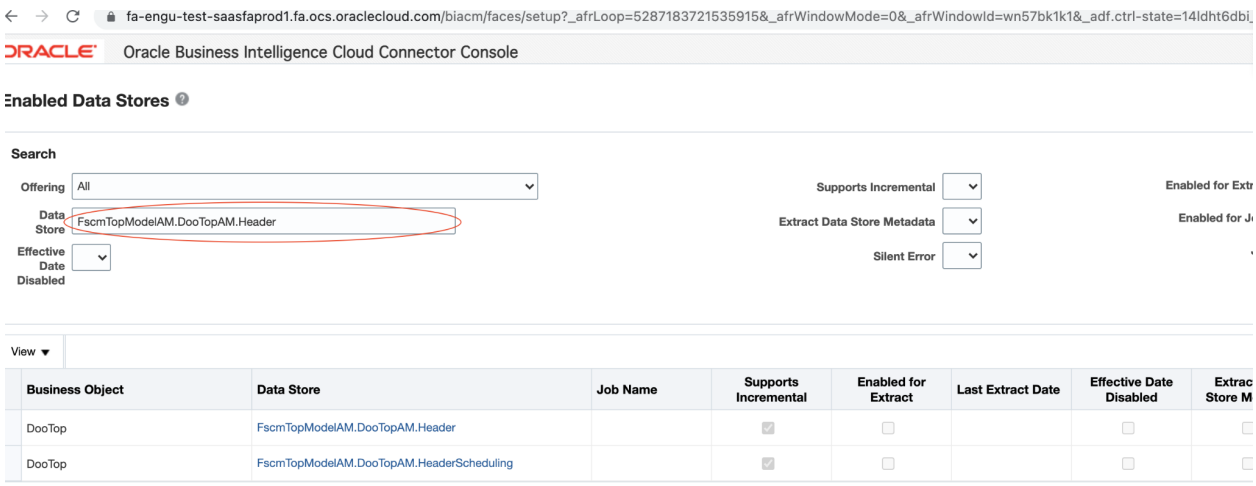


Get the name of the VO from the log:

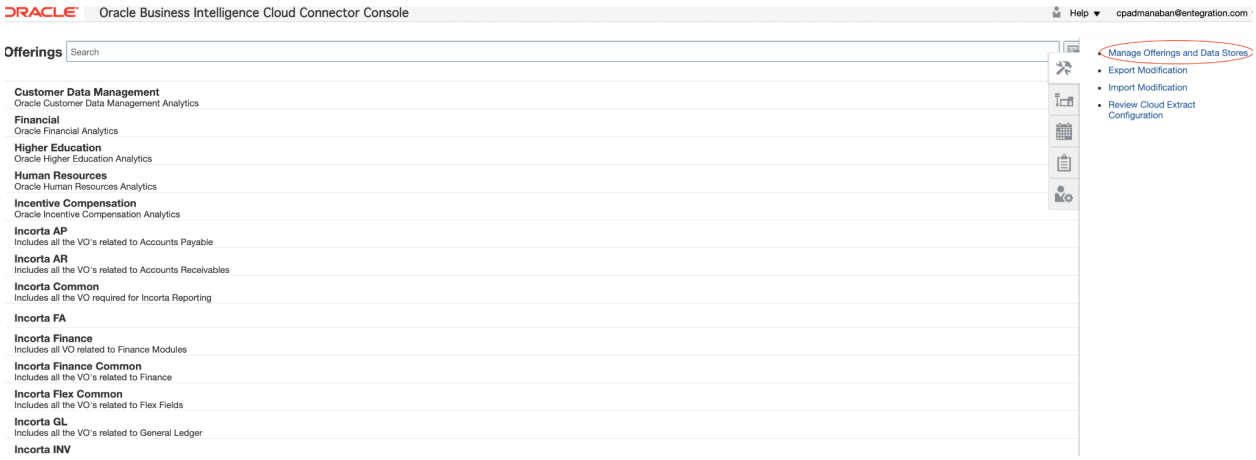
```
2021-07-08T21:52:48.258+00:00] [OracleBIServerComponent] [TRACE:2] [] [] [ecid: 005leEh0sWl1VcKpuSO5yX0007Bq000429,0:4:1:15:3] [tid: 7fed6700] [messageid: USER-0] [requestid: 881d0011] [sessionid: 881d0000] [user
------------------- SQL Request, logical request hash:
603f82a
ET VARIABLE QUERY_SRC_CD='Report',PREFERRED_CURRENCY='User Preferred Currency 1';SELECT
   0 s_0,
   "Distributed Order Orchestration - Order Headers Real Time"."Orchestration Orders Details"."Order Number" s_1,
   "Distributed Order Orchestration - Order Headers Real Time"."Orchestration Orders Details"."Ordered Date" s_2
ROM "Distributed Order Orchestration - Order Headers Real Time"
RDER BY 1, 2 ASC NULLS LAST, 3 ASC NULLS LAST
ETCH FIRST 75001 ROWS ONLY


]]
2021-07-08T21:52:48.275+00:00] [OracleBIServerComponent] [TRACE:2] [] [] [ecid: 005leEh0sWl1VcKpuSO5yX0007Bq000429,0:4:1:15:3] [tid: 7fed6700] [messageid: USER-23] [requestid: 881d0011] [sessionid: 881d0000] [use
epository: Star, Subject Area: Core, Presentation: Distributed Order Orchestration - Order Headers Real Time

]]
2021-07-08T21:52:48.278+00:00] [OracleBIServerComponent] [TRACE:2] [] [] [ecid: 005leEh0sWl1VcKpuSO5yX0007Bq000429,0:4:1:15:3] [tid: 7fed6700] [messageid: USER-18] [requestid: 881d0011] [sessionid: 881d0000] [use
elect cast(1 as numeric(2)) from dual

]]
2021-07-08T21:52:48.349+00:00] [OracleBIServerComponent] [TRACE:2] [] [] [ecid: 005leEh0sWl1VcKpuSO5yX0007Bq000429,0:4:1:15:5] [tid: 7fed6700] [messageid: USER-18] [requestid: 881d0011] [sessionid: 881d0000] [use
<?xml version="1.0" encoding="UTF-8" ?>


ADFQuery mode="SQLBypass" queryid="618030938-1093726168" locale="en">

Parameters>
        <Parameter><Name><![CDATA[AOL_LANGUAGE]]></Name><Value><![CDATA[en]]></Value></Parameter>
        <Parameter><Name><![CDATA[OTBI_CDS_ENABLED]]></Name><Value><![CDATA[false]]></Value></Parameter>
/Parameters>
Projection>
                        <Attribute><Name><![CDATA[OrderNumber]]></Name><ViewObject><![CDATA[FscmTopModelAM.DooTopAM.Header]]></ViewObject></Attribute>
                        <Attribute><Name><![CDATA[OrderedDate]]></Name><ViewObject><![CDATA[FscmTopModelAM.DooTopAM.Header]]></ViewObject></Attribute>
/Projection>
JoinSpec>
        <ViewObject>
                <Name><![CDATA[FscmTopModelAM.DooTopAM.Header]]></Name>
        </ViewObject>
/JoinSpec>
/ADFQuery>

]]
2021-07-08T21:52:48.671+00:00] [OracleBIServerComponent] [TRACE:2] [] [] [ecid: 005leEh0sWl1VcKpuSO5yX0007Bq000429,0:4:1:15:5] [tid: 7fed6700] [messageid: USER-18] [requestid: 881d0011] [sessionid: 881d0000] [use
ITH
AWITH0 AS (select T288592.C213224595 as c1,
     T288592.C198289005 as c2
rom
     (SELECT V494905976.ORDER_NUMBER AS C213224595,         V494905976.ORDERED_DATE AS C198289005,         V494905976.HEADER_ID AS PKA_HeaderId0 FROM (SELECT Header.HEADER_ID,         Header.ORDER_NUMBER,
elect D1.c1 as c1, D1.c2 as c2, D1.c3 as c3 from ( select distinct 0 as c1,
     D1.c1 as c2,
     D1.c2 as c3
rom
```

Find the VO in BICC and if VO is not found, add the new VO to BICC (note that all VOs are not pre-seeded)

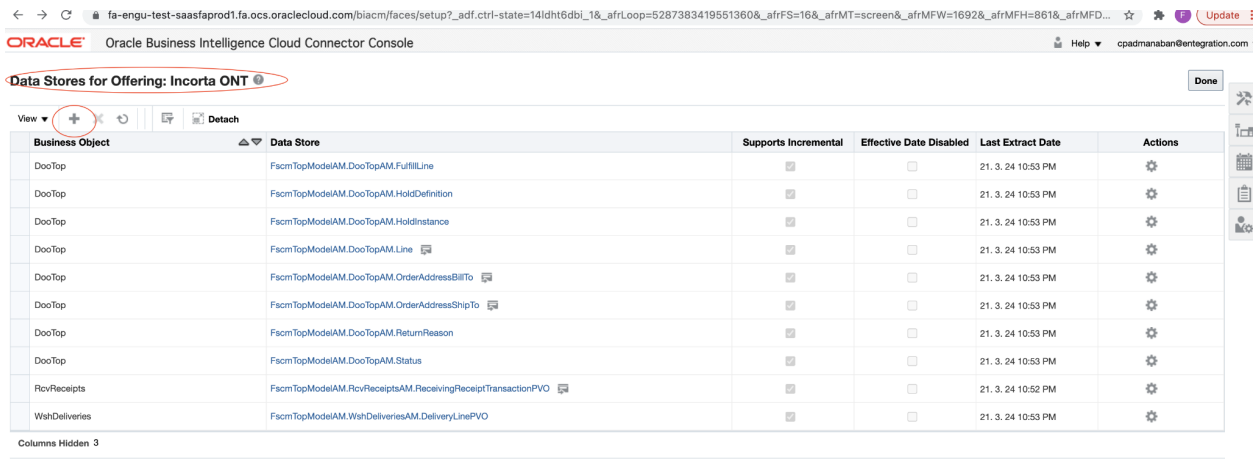
- Log into Oracle BICC, search for those VOs. We can also add the VOs to a custom offering and we can just extract that offering
- If the VO is not present you can add the VO - see steps and screenshots below



If the VO is not found, you can add it by going to manage offering and Data Store on the right hand top corner as shown below.



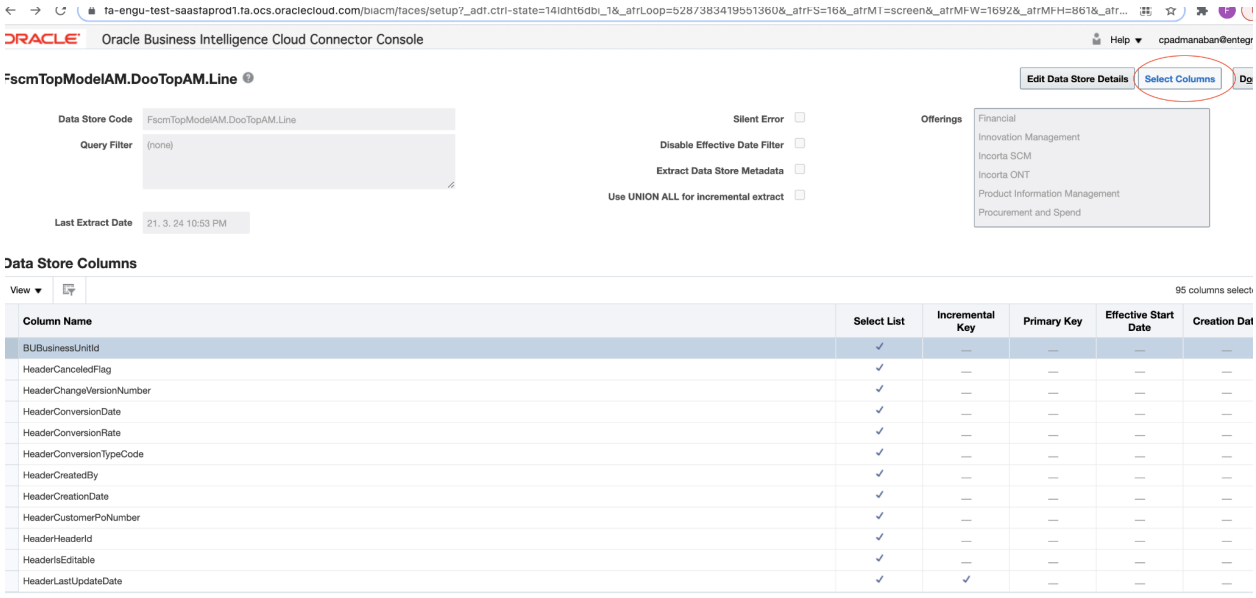
Pick the offering and click the + button to add the new VO to the offering.



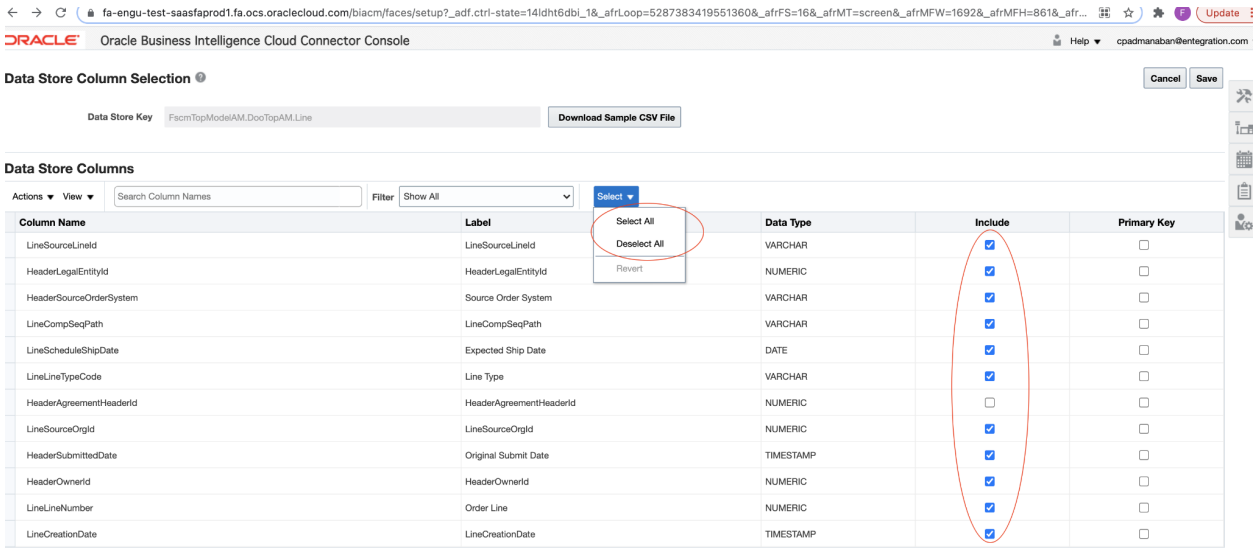
Add the VO to be added:

Press Save.

Select columns to be extracted in the VO you just added:



You can select all columns or just the ones you want and press save.

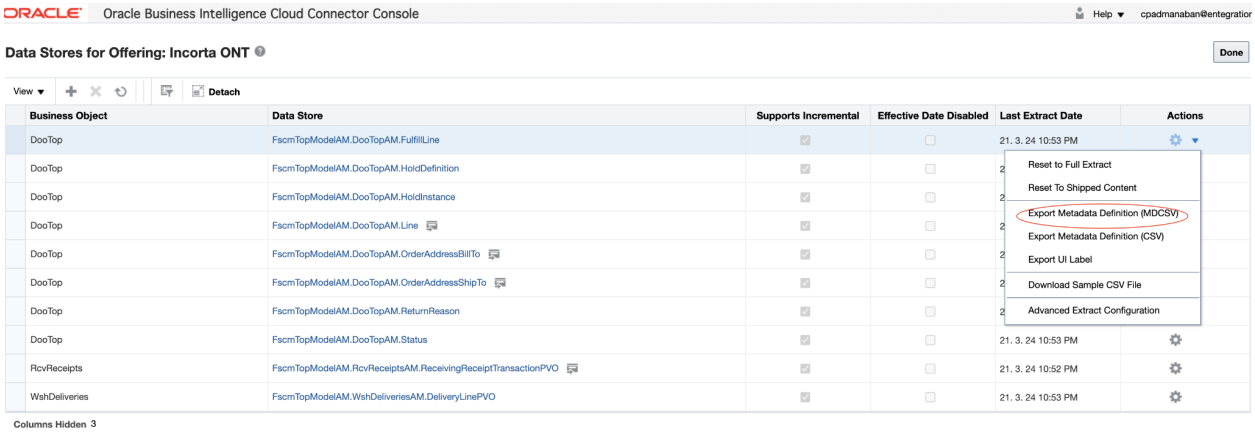


Extract the metadata file (MDCSV) for that VO from BICC and upload to Incorta

- Download the VO metadata file (mdcsv) from BICC , unzip and rename it to .csv file (change .mdcsv to .csv) and upload it to the **datafiles** folder from the Incorta UI as we need this for table creation. For eg rename

file_fscmtopmodelam_organizationam_orgtreebicvo-batch776769696-20200331_184511_433.mdcsv to file_fscmtopmodelam_organizationam_orgtreebicvo-batch.csv

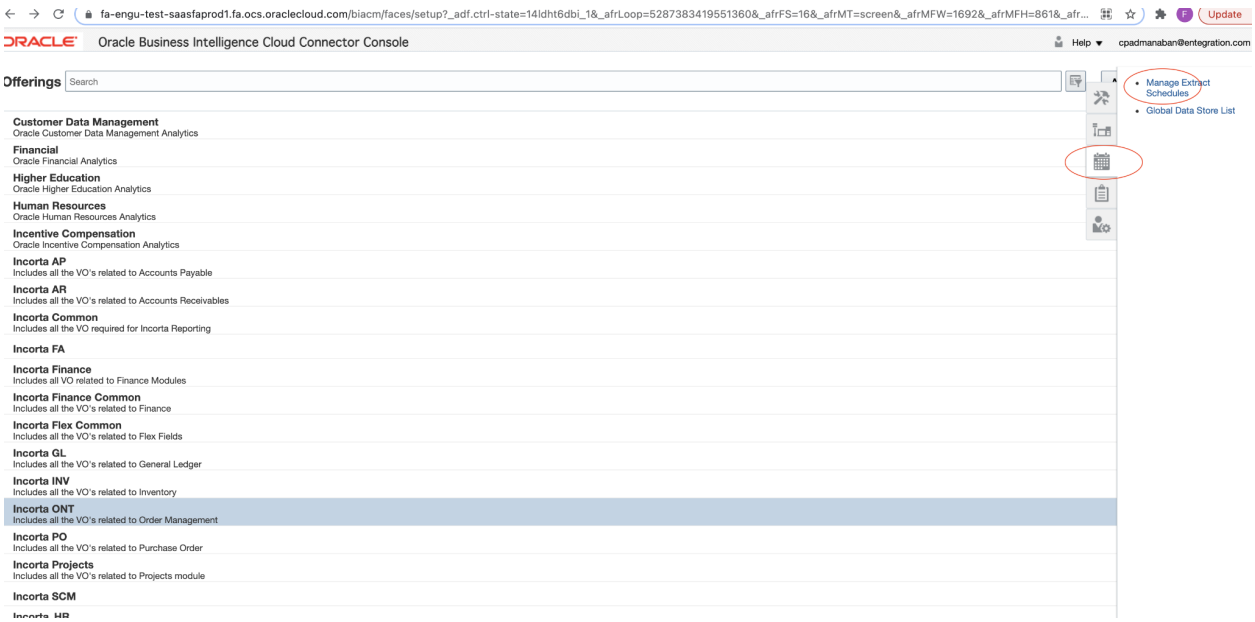
- Note that the mdcsv file will download to your local machine as a zip file



Make sure you upload this once renamed to the datafiles folder in Incorta.

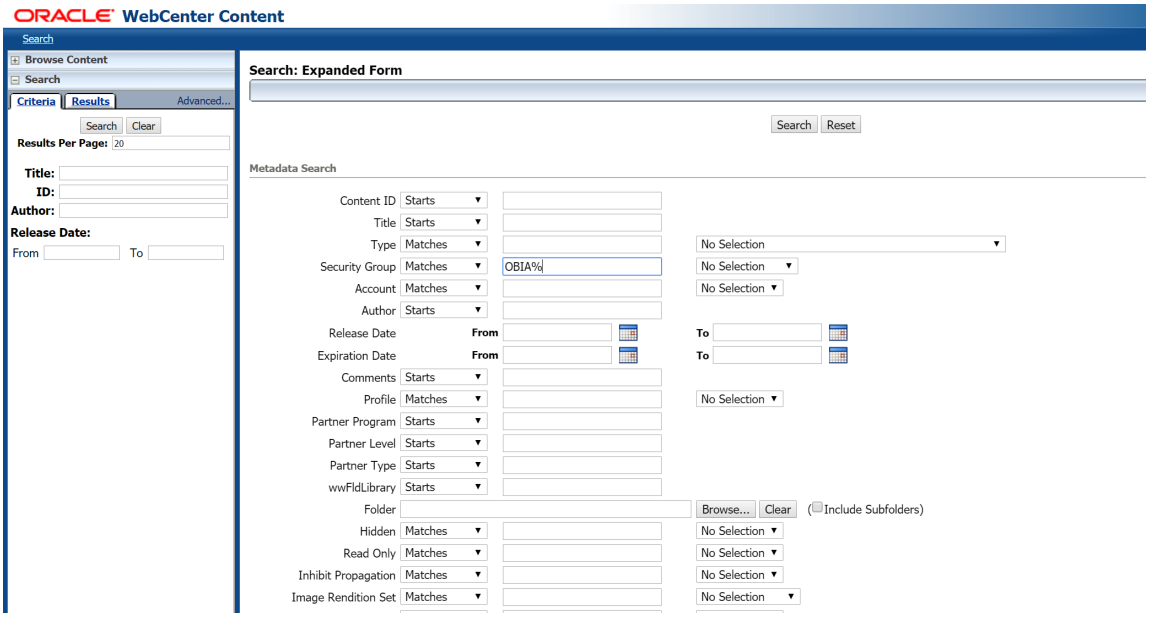
Extract data for that VO from BICC into UCM

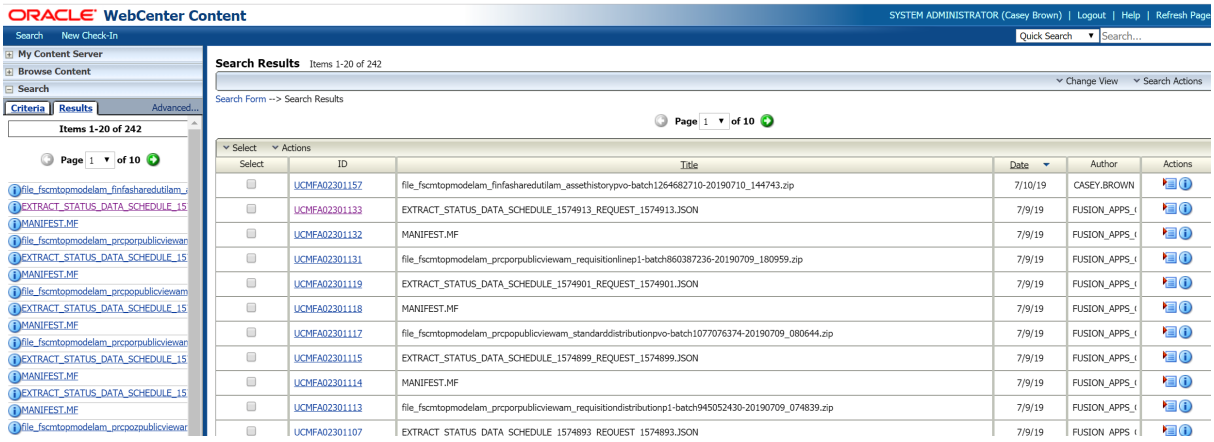
- Log into Oracle BICC, search for those VOs and run the extracts from them so that the data lands in UCM . We can also add the VOs to a custom offering and we can just extract that offering



Pick the VO and extract it. Data will be extracted to UCM.

Login to UCM to see if the file has been extracted:

- The extract will start running and when it is completed log into UCM , UCM url be like below url , just change the host name - https://adc2-zcxj-fa-ext.oracledemos.com/cs/idcplg?IdcService=GET_DOC_PAGE&Action=GetTemplatePage&Page=HOME_PAGE
- In the UCM screen click on the 'Search->Advanced' tab on the left hand bar and in the Security Group put OBIA% and hit search. Check if the .zip extract files have been generated.
- 

- 

Create the table corresponding to the new VO being added in Incorta

- Now log into Incorta and use the schema wizard to Import the VO definitions to create Incorta table (see earlier sections for this)
- Create the Joins from child to parent. Create any formula columns if needed.
- Load the physical schema in Incorta
- Create or update a business schema
- Create new dashboards on top of that business schema and validate the data and joins.

FAQ

1. Do we support Incremental extract for oracle cloud erp?
    a. Yes
2. How do you keep the VOs updated based on the oracle releases?
    a. Oracle can add new columns to the VOs, so if needed we can do a full re-extract from BICC and do a save of the table in Incorta.
3. How do we size Fusion:
    a. We have a db script for an oracle database but many fusion customers do not have a replicated oracle fusion db as it is very expensive. If they only have access to BICC then they need to ask Oracle to run the script in the fusion db and send us the output.

4. How do I dynamically load only the last 90 days of data for a table
    a. For the use case of dynamic filter, the user can just use the value '90d' in the date filter field to “Load Only Files Created Since“ to load only the files created in the last 90 days before the loading starts.
5. How do I add a query filter to a VO in BICC
    a. Edit the VO and in the ‘Query filter’ section add a filter like `__DATASTORE__.<column> = <something>`
6. How do I query a VO from OTBI - You can log into OTBI (sample https://adc2-zcxj-fa-ext.oracledemos.com/analytics), go to Administration->Issue SQL and then run this kind of query -
    a. select_physical count(*) from "HcmTopModelAnalyticsGlobalAM.PersonAM.GlobalPersonPVO"
    b. select count(*) from EXTERNAL('ADF','"oracle.apps.fscm.model.analytics.applicationModule.FscmTopModelAM_FscmTopModelAMLocal"."Connection Pool"').'FscmTopModelAM.ReceiptAccountingAM.ReceiptAccountingTxnP1'

Troubleshooting

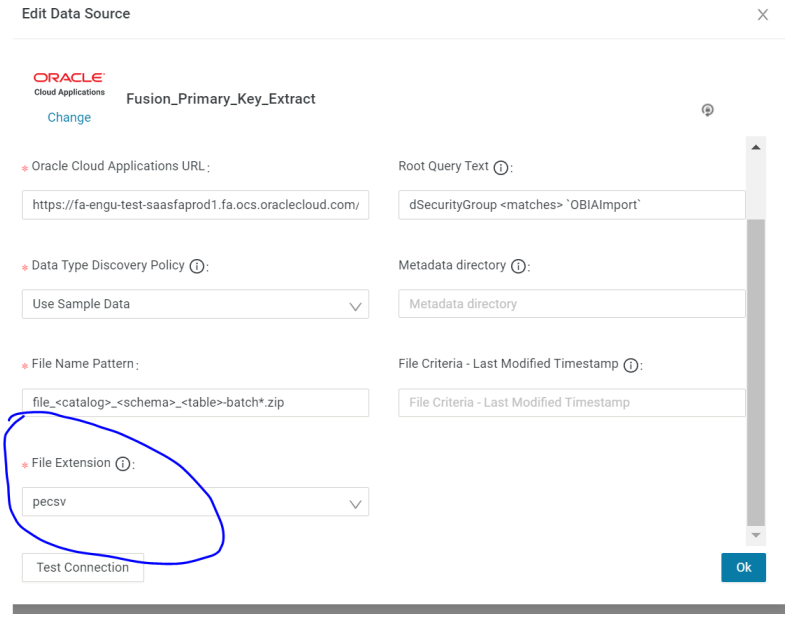
While running the schema loads you may face some issues, here are some sample errors and steps to fix them.

Issue	Fix
Not able to connect to the Oracle cloud erp data source from Incorta - gives system error	1) It could be due to jdk version, we need version 8 . 2) Check if the server on which Incorta is installed has network access to the cloud erp url
Not able to see files in UCM	Check if the bicc and ucm user is correctly setup with Roles - BICC : https://ucf3-zmcw-fa-ext.oracledemos.com/biacm UCM : https://ucf3-zmcw-fa-ext.oracledemos.com/cs/idcplg?IdcService=GET_DOC_PAGE&Action=GetTemplatePage&Page=HOME_PAGE
No sample file found for data store fscmtopmodelam.finglcalaccam.fiscaldaypvo. Make sure to upload at least one sample file to WCC to be used for schema discovery	This means that the connector didn't find any extract file for the datastore fscmtopmodelam.finglcalaccam.fiscaldaypvo, i.e. didn't find any file with title like file_fscmtopmodelam_finglcalaccam_fiscaldaypvo-batch*.zip. There must be at least one file in UCM so that the connector can discover which columns were selected for extraction. Login to UCM and search for that file, if it does exist please re-extract the file from BICC.
No schema named [catalogam] found under catalogue [fscmtopmodelam]	This means that the connector didn't find any files whose names start with the prefix file_fscmtopmodelam_catalogam*. Login to UCM and search for that file, if it does exist please re-extract the file from BICC
Failed to load data from [Fusion] due to [Column PURCHASEORDERDISTRIBUTIONPOHEADERID not found in source schema.	This means that some of the source columns were either dropped or renamed in the source VO in Oracle Fusion, to fix it just open the table in the schema, click on 'Files' and hit Save and then click on Done.
Mismatch of columns in various files of a VO in UCM	This is possible if the customer has already extracted data previously and when we uploaded our offerings and re-extracted the full load files it added new columns to the fields . We should then read only the files in UCM from a certain date by adding a date filter at the data source. In the connector properties, in the last field, for eg the string could be: >= '2019-10-15 12:00' . The other option is delete older files from UCM.
Disk Full error	The files from UCM are downloaded and unzipped in a folder. We control the file cache deletion by customer configured file cache clean periods [where cached files to be cleaned periodically] from connector

	configuration. the zip files by default will be deleted in 1 hour if we don't set any caching period. **Cache folder**: /incorta/IncortaAnalytics/Tenants/<tenant>/filecache/Fusion
Table load hanging	Open the loaded log. Someone may have interrupted the loading while the tables were still reading from their data files which can cause an IO error "java.io.IOException: Premature EOF" , it seems that due to that, the file's lock was not released properly Restarting the loader will resolve the problem
Debugging in Fusion app via BI publisher	Refer to this doc - https://docs.oracle.com/en/cloud/saas/supply-chain-management/20b/faiom/troubleshoot.html#FAIOM3268643

Handling Source deletions of rows in Incorta

- Create a new Oracle applications datasource with the .pecsv file extension



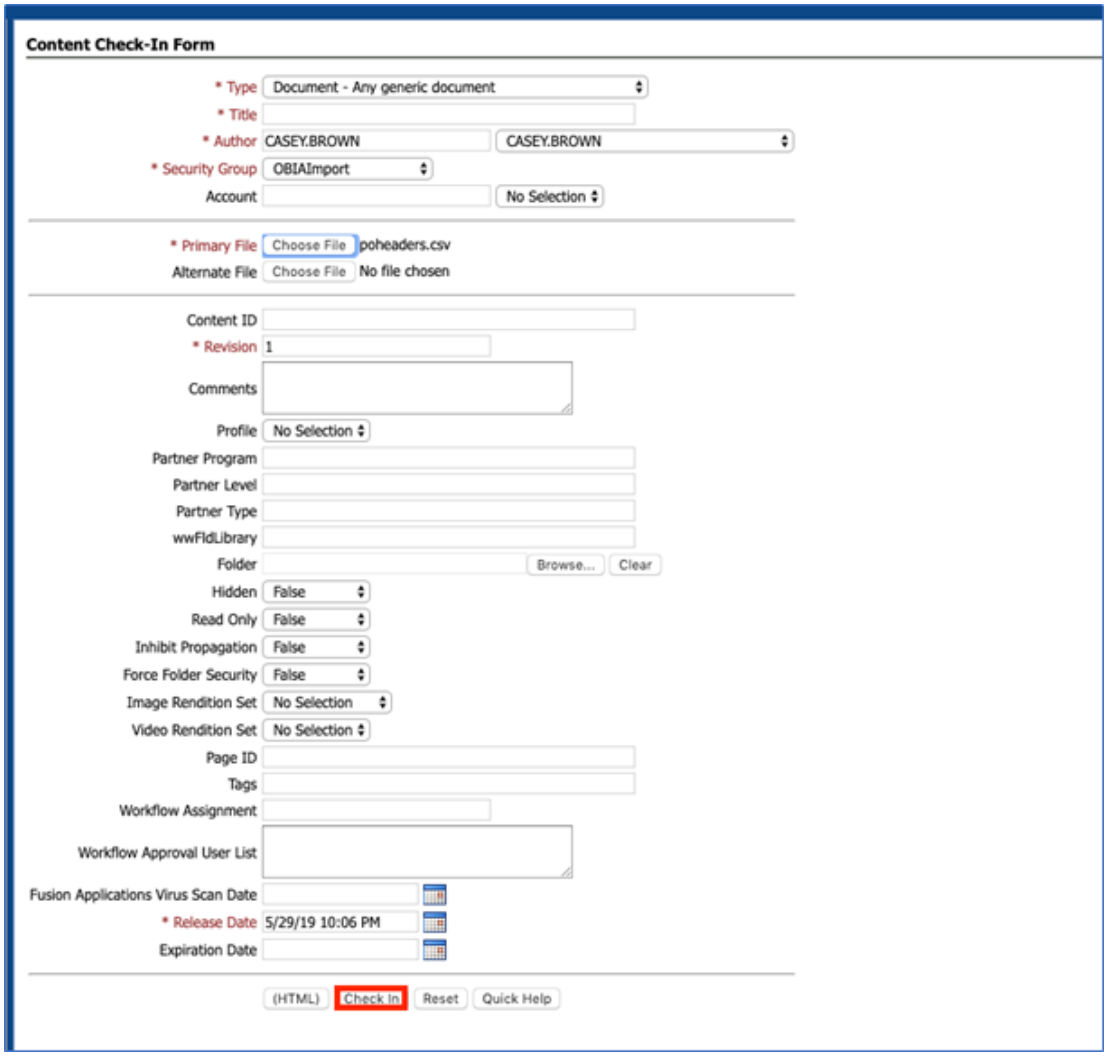
- Do a Primary Key Extract in BICC using manage extract schedules and selecting the job type as ‘Active primary Key Extract’
- Create a new schema (or use an existing one) for these PK tables and add the PK tables using Schema wizard
- We will always do a full load of the above PK table.
- Make the above PK table as a parent table of the base table by creating a child join from the base table to this PK table.
- Apply a table security filter on the base table as - "a field of parent table is not null" . Sample security filter on base table using the parent table field - not(isNull(PK_Schema.PKTable.id))
- This way the deleted rows from the base fact will always be filtered off from the dashboards. If required you can also schedule a periodic full load (for example every week) to flush out the deleted records from the base table.

Adding other non ERP Fusion tables in Incorta

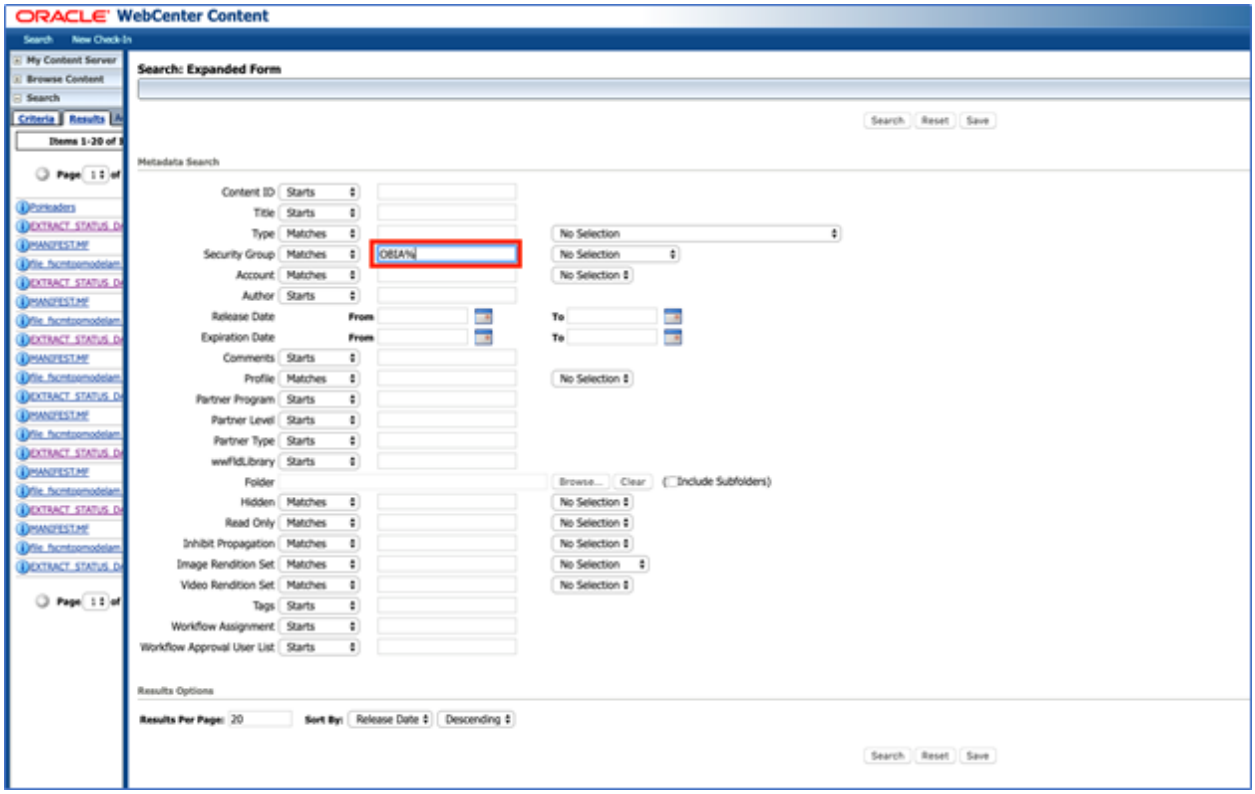
- There are many Fusion modules like Oracle Trade Management or Oracle CPQ which do not integrate with BICC so in that case use whatever available method like BI publisher report to create a csv , name & zip it the format “file_<catalog>_<schema>_<table>-batch*.zip” and upload to UCM/Object Storage. (Put some values for the catalog and schema)
- Now use the schema wizard or directly create a table in a schema using the Fusion data source. The connector will import the object for the .zip file .
- Login to Oracle Webcenter console and click on “New Check-In” option on left upper end corner of the screen

- Fill in all the mandatory section in this page
    - Type:- Select the relevant document type
    - Title:- Name for the file. Any name can be provided
    - Author:- Choose the owner from the list
    - Security Group:- Select the relevant security group
    - Primary file:- Select the file that needs to be uploaded. In this scenario I have selected the csv file.
    - Revision:- Enter the revision number. By default it will be selected as one
    - Release Date:- By default it will be selected to current date

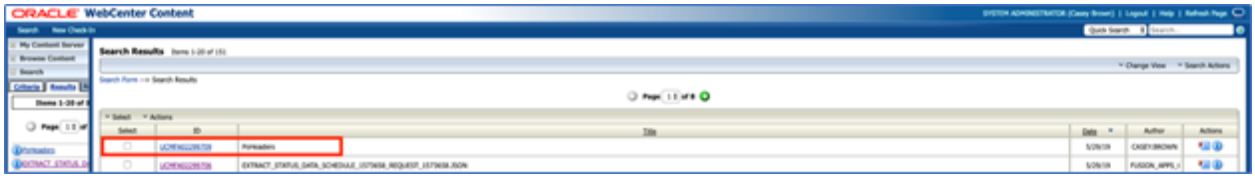
- Once all the information is filled in, click on “Check In” available at the bottom of the screen



- Once the document is uploaded successfully, Navigate to Search and click on the Advanced search. Type in the Security group name to filter out the files. Click on “Search”



- We can see the PoHeaders.csv file that was uploaded earlier



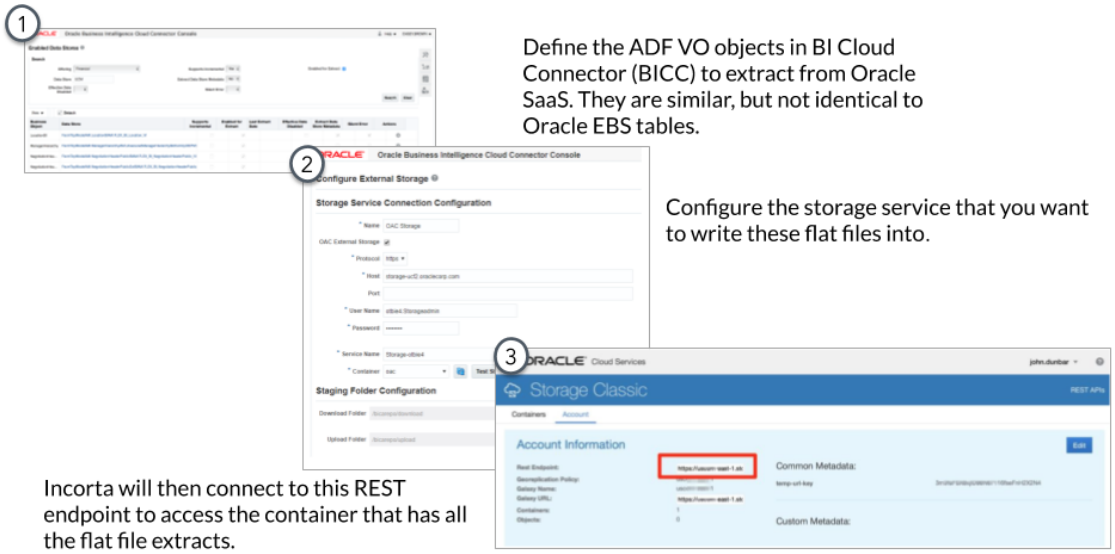
Oracle BICC (BI Cloud Connector Content)

- To extract Fusion Applications Cloud data, you use BI Cloud Connector Console, which is deployed on your Fusion Applications pod.
- You start BI Cloud Connector Console using a HTTP URL based on the following format: `http://FA OHS Host:FA OHS Port/biacm`. You can also start BI Cloud Connector Console using the Web link and login details supplied to you by Fusion Support.
- Download logs from Help
- Data extract is incremental, one can reset to full extract at a VO level.
- https://docs.oracle.com/en/cloud/saas/applications-common/r13-update17d/biacc/biccc-overview.html

Oracle UCM (Universal Content Management)

- You can access BICC content in UCM.
- Login to UCM as https://<FA OHS HOST>/cs/idcplg?IdcService=GET_DOC_PAGE&Action=GetTemplatePage&Page=HOME_PAGE
- Search for the extracted zip files by going to the Advanced Search Page and putting OBIA% in the 'Security Group' field and clicking on search.

Oracle Cloud Applications – Extracting data from Oracle SaaS

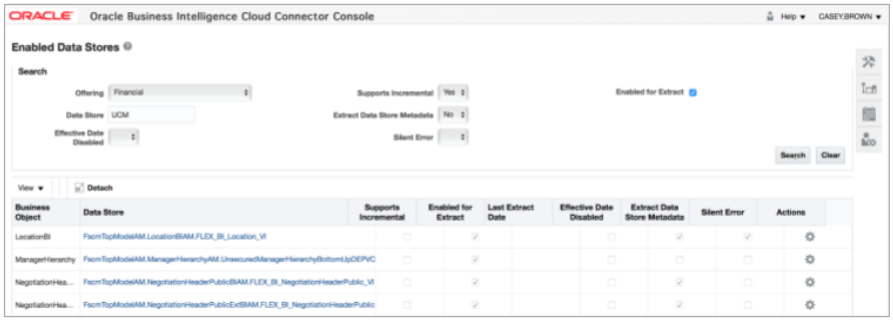


Define the ADF VO objects in BI Cloud Connector (BICC) to extract from Oracle SaaS. They are similar, but not identical to Oracle EBS tables.

Configure the storage service that you want to write these flat files into.

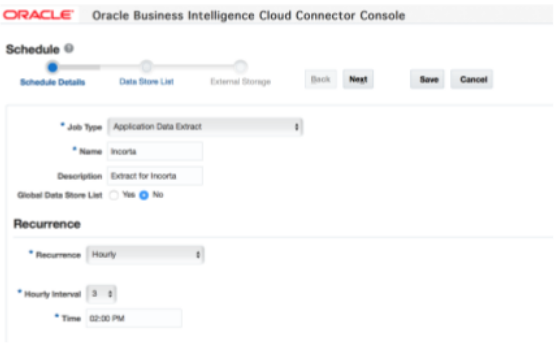
Incorta will then connect to this REST endpoint to access the container that has all the flat file extracts.

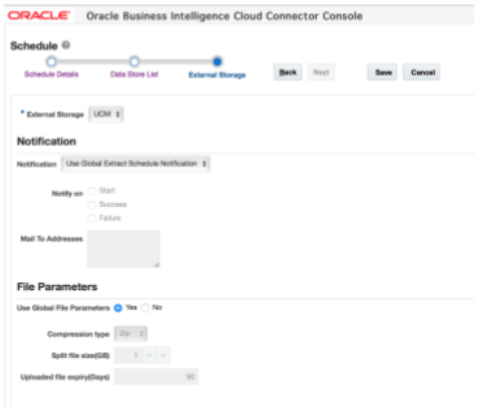
1. Configure the BICC based extract



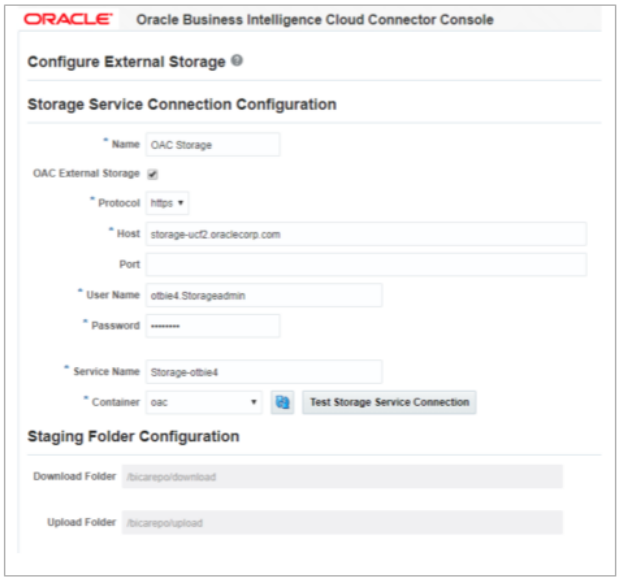
Define the functional offering and the objects you want to extract from Oracle SaaS

2. Schedule the BICC based extract

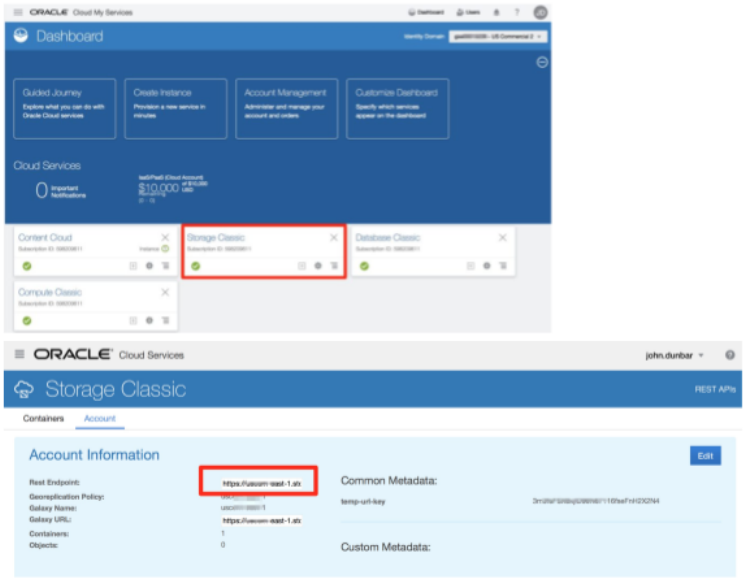




3. Move the extracted files to Storage Service or Webcenter (UCM)



Configure Storage Services and container for the extracted data



If the data is in storage service, then

- Select storage classic
- Create a container
- Use the REST end point to connect and access the files in the container.

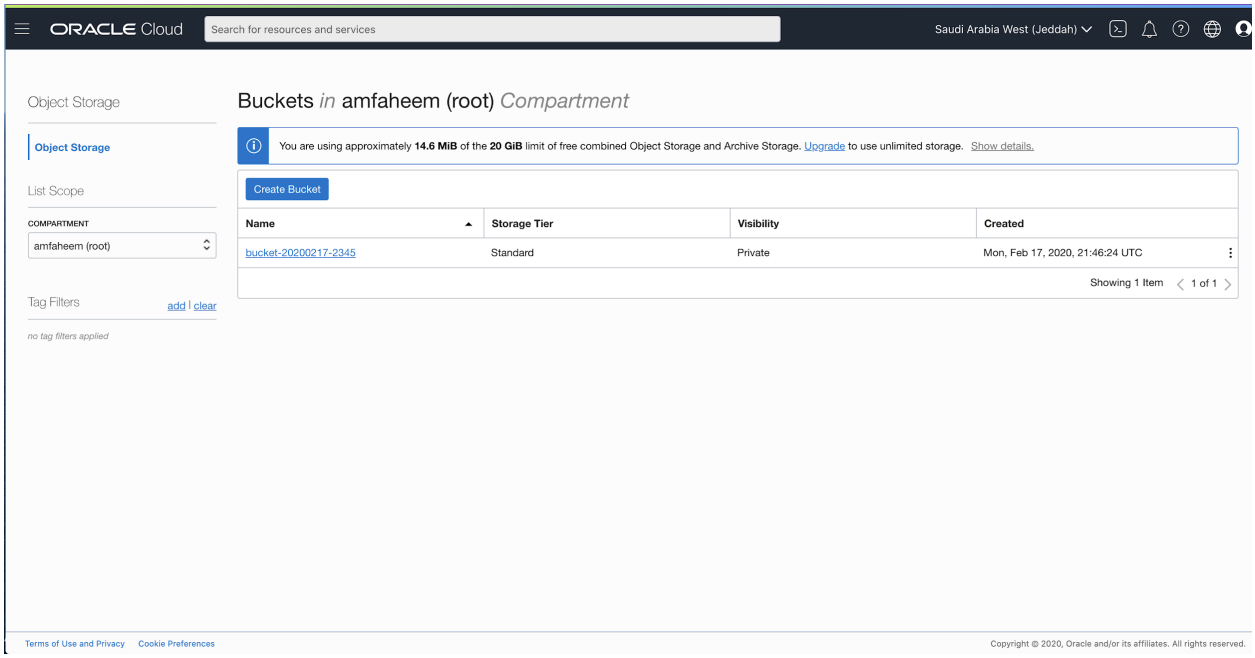
If the data is in UCM, then use the following three parameters to connect

1. Web center portal URL
2. Username
3. password

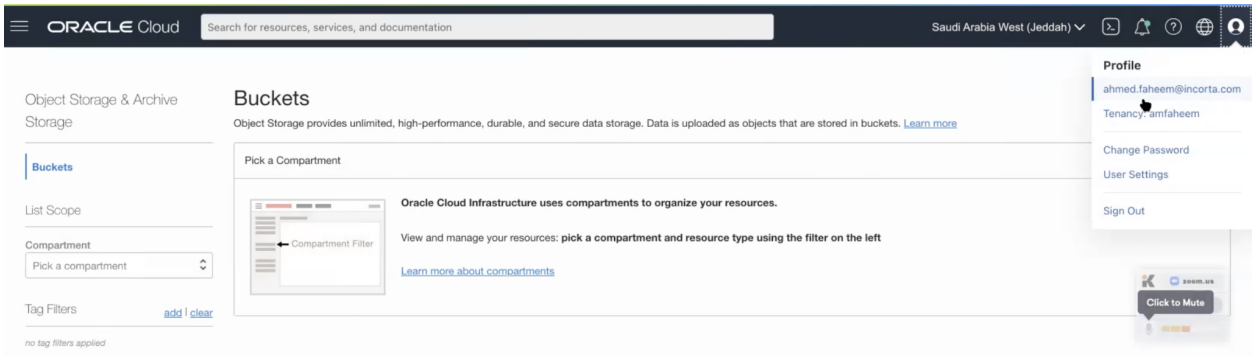
Oracle OCI Object Storage

- You can access BICC content in Object Storage.

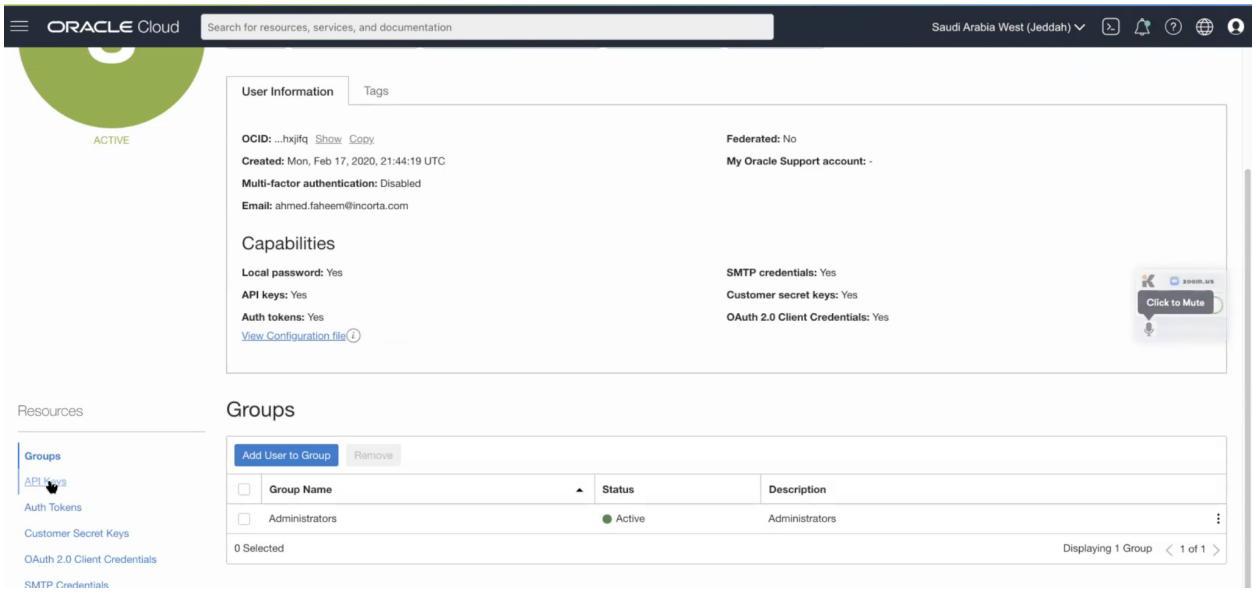
- Login to Oracle cloud account as https://www.oracle.com/cloud/sign-in.html then enter your username and password.
- Navigate to Object Storage tab.
- There you can see all the existing buckets associated with your region.



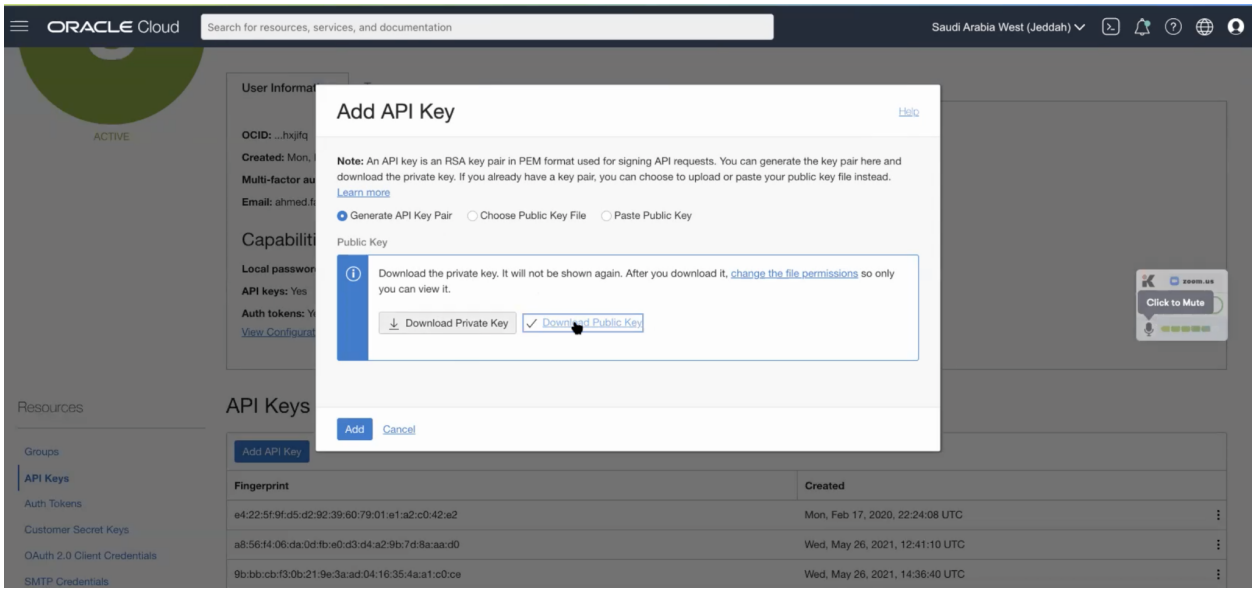
- Click on Profile on the top right hand side > go to your profile



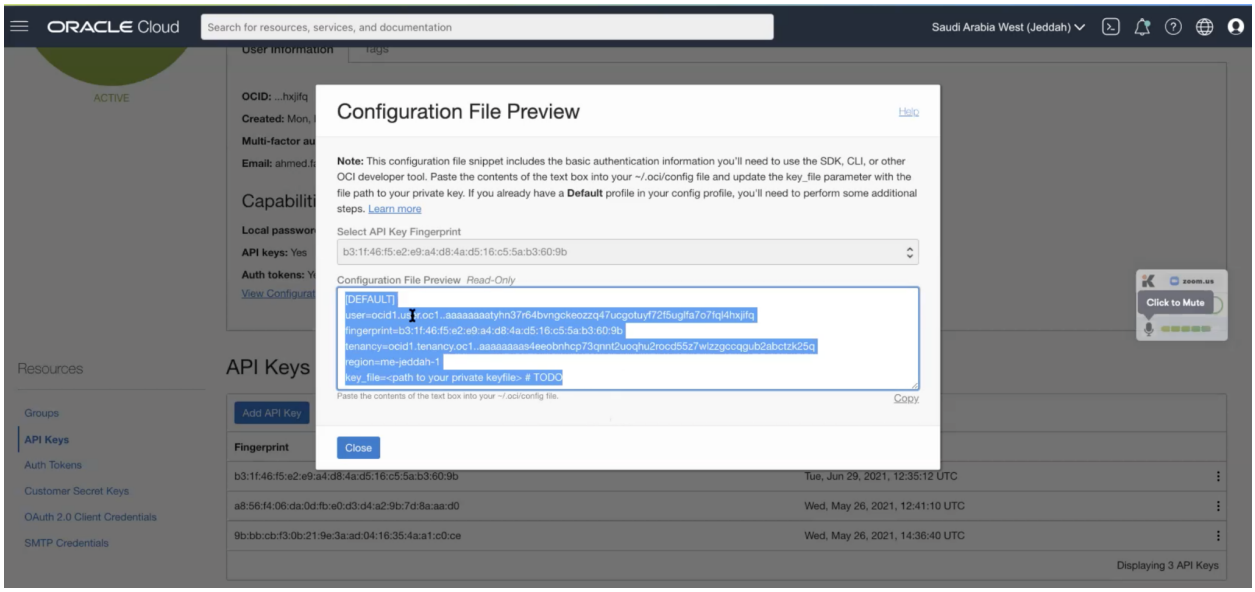
  - Click API Keys on the bottom left hand side



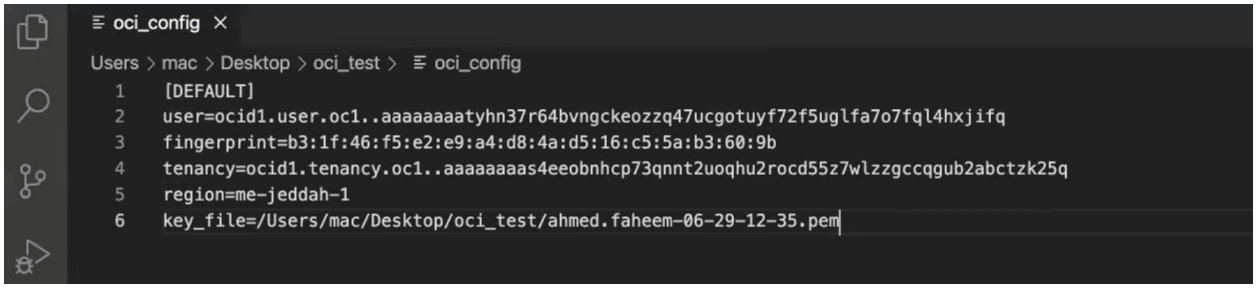
- Add new API Key > Download the Private & Public key files



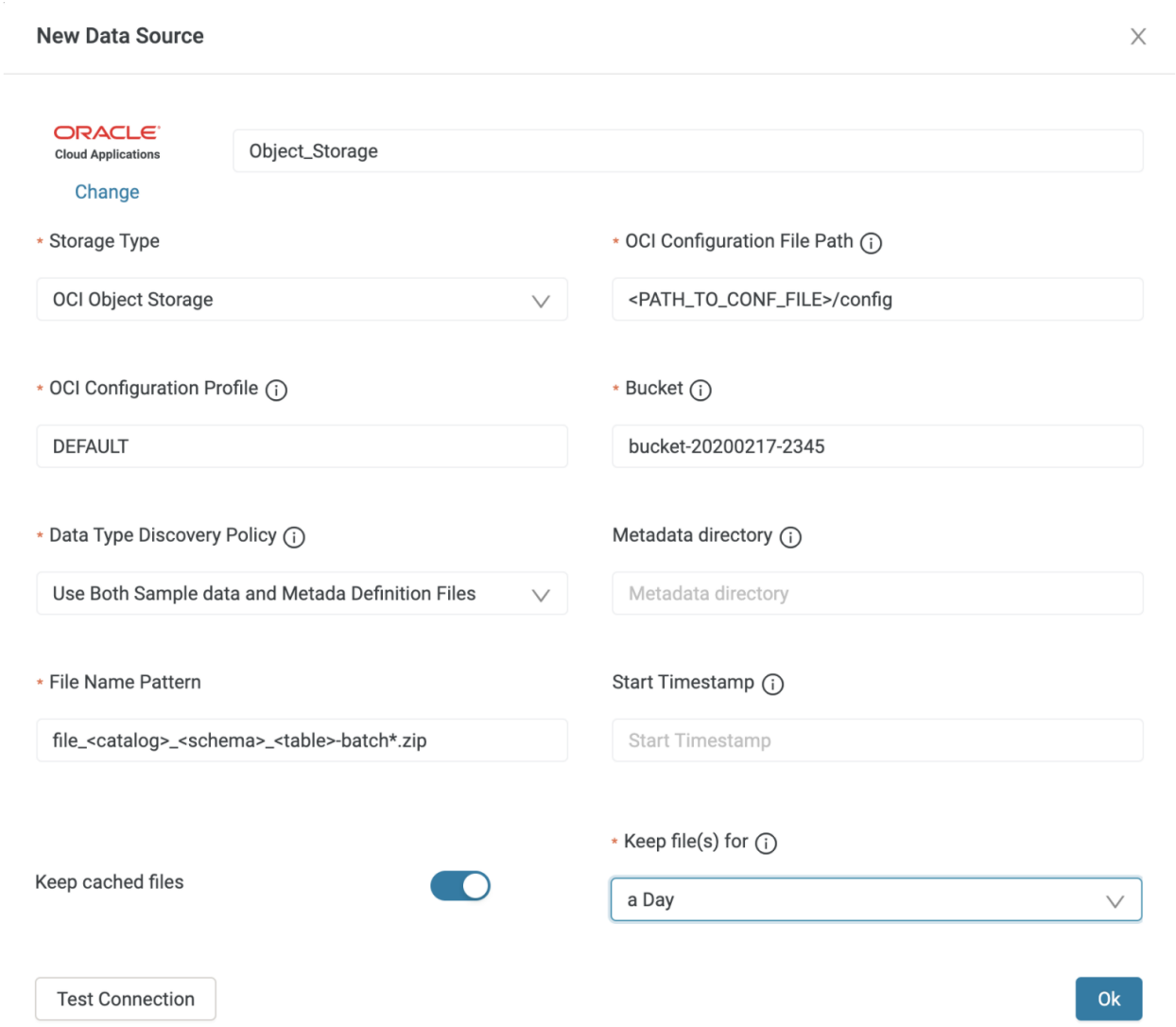
- Click Add > copy Configuration file details



- Create the configuration file
    a. Make sure you have the private & public downloaded key in the same folder to be saved into incorta domain (eg. /IncortaAnalytics)
    b. Start terminal session on the same directory folder of the keys
    c. Type Code <cong_file_Name>. It will open a text file
    d. Paste the configuration file preview code and add the path of the private key file



- Object storage Incorta connector



- Object Storage:
  https://www.ateam-oracle.com/set-up-oracle-fusion-saas-business-intelligence-cloud-connector-bicc-to-use-oracle-cloud-infrastructure-oci-object-storage
  - For the Object Storage:
    - **OCI configuration file path:** the path to the configuration file for Oracle Object storage, containing information about the user, profile, tenancy id and region.
    - **OCI configuration profile:** the profile you wish to access your data from. The configuration file provided can contain multiple profiles, each of which has its own authentication credentials, so the user should specify which profile to work with.
    - **Bucket:** the name of the bucket which contains the target data files. (a bucket is logical container for storing objects. It can be perceived as folder in file system)