

An Oracle White Paper
August 2016

Data Model Document Generation:
Creating Data Dictionary for OFSAA/OFSDf and
Download Specifications for OFSAA Staging from
ERwin

Introduction to Data Model Document Generation.....	3
Background on ERwin	2
OFSAA Data Models in ERwin	2
Impact of ERwin use on data model documentation	2
Purpose of this whitepaper	2
Data Dictionary.....	2
Download Specifications.....	3
Generation Process.....	5
Requirements for Data Model Document Generation	6
Generating the Data Dictionary.....	6
Generating Download Specifications for Staging Area	12
Conclusion.....	22
Appendix A	23
Appendix B	25

Introduction to Data Model Document Generation

This is a technical whitepaper on how to generate the data dictionary documentation for Oracle Financial Services Analytical Applications (OFSAA) as well as the Oracle Financial Services Data Foundation (OFSDf). The process of generating the download specifications for OFSA Staging is also explained. Both these activities are performed in ERWin.

Background on ERwin

OFSAA data models are present in ERwin. ERwin also helps in the creation of data model documentation.

OFSAA Data Models in ERwin

Since OFSAA version 5, the data model has been defined and delivered as an ERwin file. ERwin is a data modeling tool or environment on which, OFSAA currently depends. It is used to define all data model artifacts, both Logical and Physical data models, which are used by the OFSAA applications, as well as the Oracle Financial Services Data Foundation.

Impact of ERwin use on data model documentation

In the prior versions of OFSAA, the data model was documented in PDF form, and shipped separately from the actual application artifacts. Starting from OFSAA 5, this has changed. The primary store of all data model related documentation will be the ERwin data model file. The reasons for this are as follows:

1. ERwin permits complete definition of model-related documentation within the model itself. In other words, the model is now 'self-documenting'.
2. In many cases, clients typically perform several customizations to the model. This causes any fixed model documentation to progressively become outdated or inaccurate, as additional fields or tables are added to the data model for client-specific needs.
3. All OFSAA applications share a common physical data model, which is also shipped as part of the OFSDF. As clients may license independent OFSAA applications or OFSDF at different points in time, ERwin permits these models to be merged in a controlled manner to account for site-specific changes as well as release-specific changes from Oracle.

Model documentation can then be generated for the combined, updated model, and therefore stays up-to-date with both the latest internal (client-specific) and external (product-driven) changes.

Purpose of this whitepaper

This whitepaper explains the process of generating two important documentation artifacts from within ERwin.

Data Dictionary

The data dictionary is a detailed listing of all tables/columns constituting a specific OFSAA application. Today, the ERwin file containing the OFSAA data models provides the following information relevant to the creation of a data dictionary:

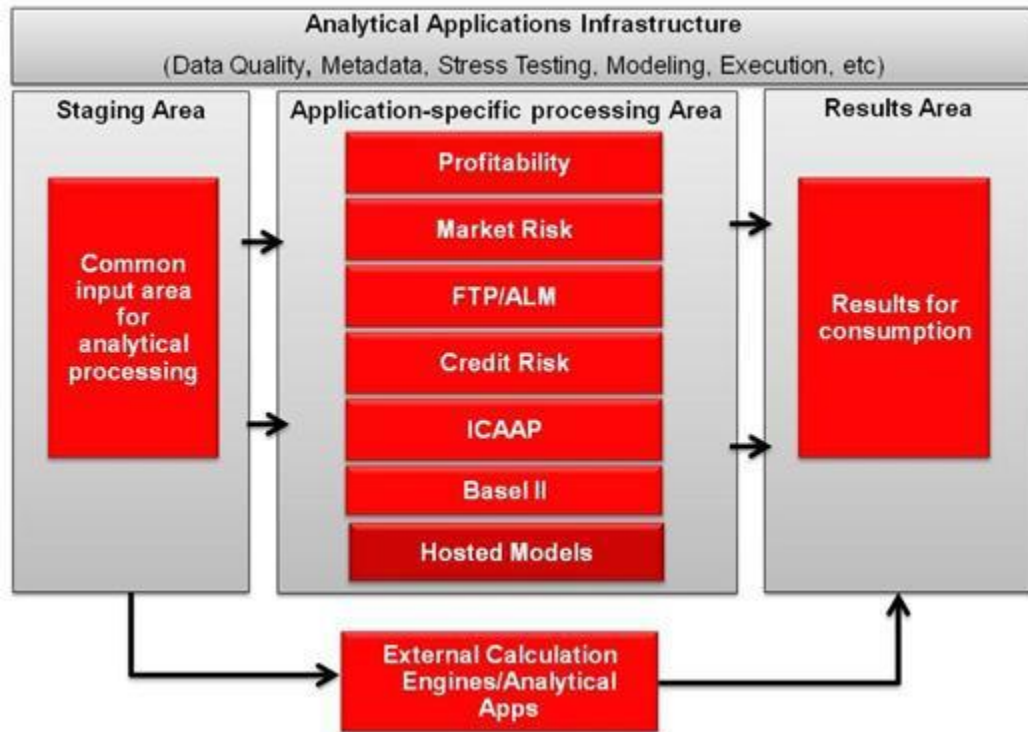
- Subject Areas in each part of the data model

A subject area is a specific grouping/organization of the data model content. It is a high-level categorization scheme that shows which application module or business analysis areas are served within the model. The tables and columns defined during the design process are grouped into these categories for easier navigation as well as comprehension of the model.

- Table/Entity definitions
 - Detailed definitions of all tables
 - Detailed, column level dictionary information including column specification, datatypes, as well as several User Defined Properties (UDPs) that provide additional metadata added during the design process to categorize a specific data model object.
- Data Model diagrams
 - Associated with each data model (either OFSAA or OFSDF) is a collection of data model diagrams (Entity Relationship diagrams). These are usually specific to a subject area, and provide a visual representation of the key entities, their relationships and keys.

Download Specifications

As indicated earlier, the OFSAA data model is a common data model supporting multiple OFSAA applications. The organization of the data model is split into 3 distinct areas.



1. Staging Area: This schema is the common data sourcing layer across all OFSAA applications, and also the OFSDF.
2. Processing Area: This refers to application-specific schemas that are exclusive to each OFSAA application, and provide storage/structures for intermediate outputs and application-specific configuration and setup data.
3. Results Area: This refers to the collection of star schemas with conformed dimensions that support BI/reporting from aggregated outputs from the processing area.

The use of the common sourcing layer means that a single table in the staging area can serve multiple and different analytical applications/processing engines within the OFSAA architecture.

Therefore, it is necessary to know how specific applications map to specific staging tables/columns, and what subset of the complete unified staging data model is actually used by each application.

The **download specification** is a supplemental document to the data dictionary that provides this listing. For each staging table/column, it provides key information such as definition, datatype, and so on. Additionally, it maps each column in a specific staging table to the OFSAA applications/components that use this column, and also indicates whether this column is mandatory or optional.

This provides implementers with a scoping documentation for data sourcing that specifies the data requirements applicable to a particular solution, for which the sourcing scripts need to be developed.

This is done by means of specialized metadata within ERwin called User Defined Properties (UDPs), which are additional tags that a data model designer can attach to any data model object in ERwin. For additional details on UDPs please refer to the ERwin Data Modeler documentation.

Generation Process

In order to produce the specific documentation described earlier, you can make use of ERwin's **Model Reporting Capabilities**, which allows data modelers to produce customized reports of various data model artifacts.

ERwin allows the generation of model-documentation in various levels of detail, and various formats like HTML, Text, PDF, and so on.

The generation process involves installing ERwin reporting templates for the Data Dictionary and Download Specification, and executing these templates, with customization of the outputs as required.

Note: This guide is not an exhaustive User guide for ERwin's reporting capabilities, but only details the specific steps to apply them to generate OFSAA/OFSDf documentation. Please refer ERwin documentation or Contextual Help within ERwin for more details.

Requirements for Data Model Document Generation

1. ERwin version 7.x
2. Latest documentation templates
 - Data Dictionary template can be found here-
http://docs.oracle.com/cd/E26650_01/books/CommonDocuments/Diagram_And_Dictionary.rtb
 - Download Specification template can be found here -
http://docs.oracle.com/cd/E26650_01/books/CommonDocuments/Download_Spec_Report_Template.erp
 - Pre-formatted Excel Spreadsheet can be found here -
http://docs.oracle.com/cd/E26650_01/books/CommonDocuments/DL_Spec_Output_Container.xls
3. The data models

Generating the Data Dictionary

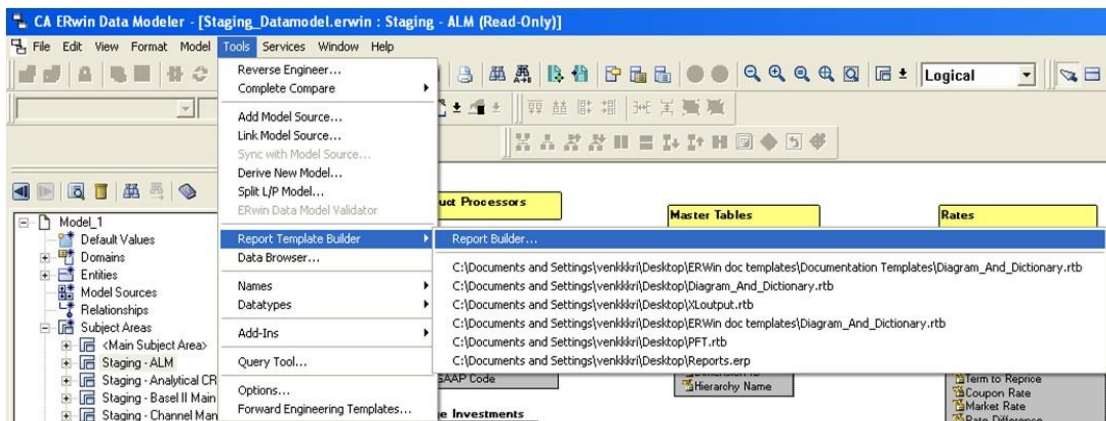
Step 1: Download the latest template

The latest Data Dictionary template is available at http://docs.oracle.com/cd/E26650_01/books/CommonDocuments/Diagram_And_Dictionary.rtb. It has a file extension .rtb (report template builder).

Step 2: Open the corresponding data model for which documentation needs to be generated, from within ERwin.

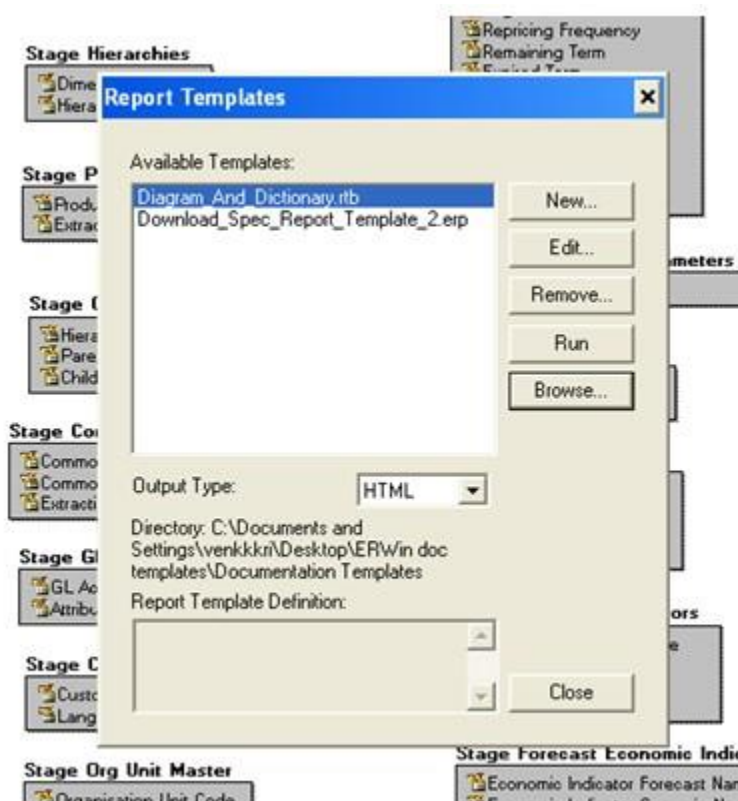
- Make sure that your model is up-to-date before generating documentation. Verify that the model for which you are generating the dictionary reflects the latest changes (Refer to model merge documentation for details on this process).
 - Specific to your institution
 - Latest product-release specific changes

Step 3: Locate and open the template from within ERwin. To do so, use the following menu navigation to open the Report Builder dialog in ERwin.



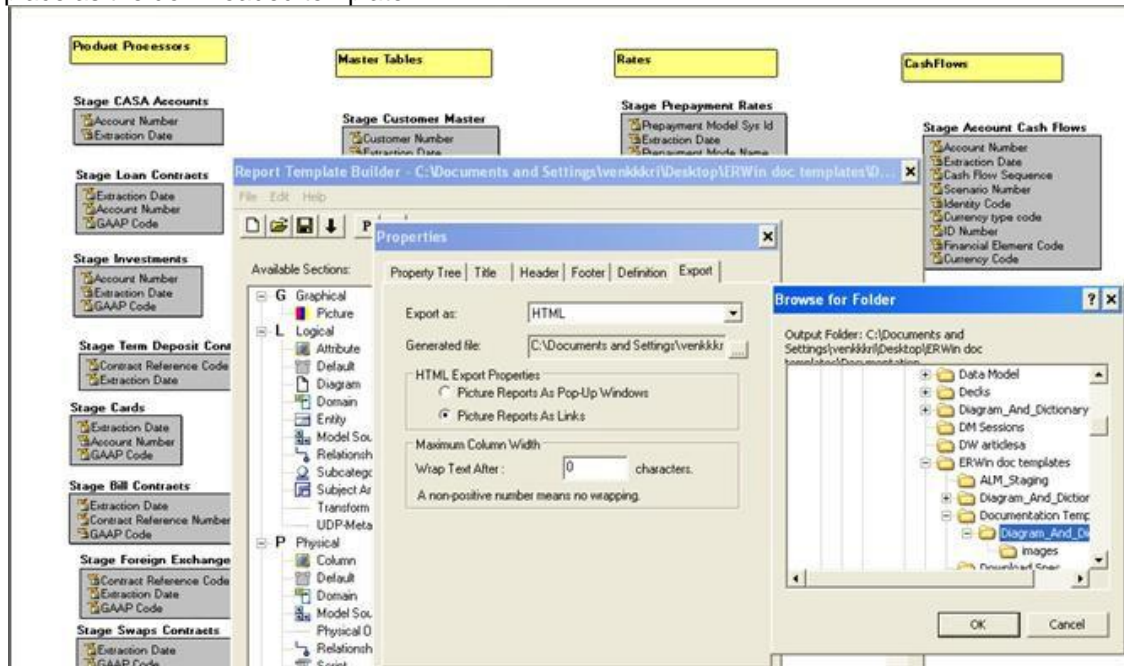
Make sure you use a single consistent location for installing all your data dictionary templates, and remove any old templates prior to the next step.

Step 4: Using the **Browse...** button from within the Report Builder, navigate to the folder containing the downloaded template. Click **Diagram_And_Dictionary.rtb** as shown in the following screenshot.



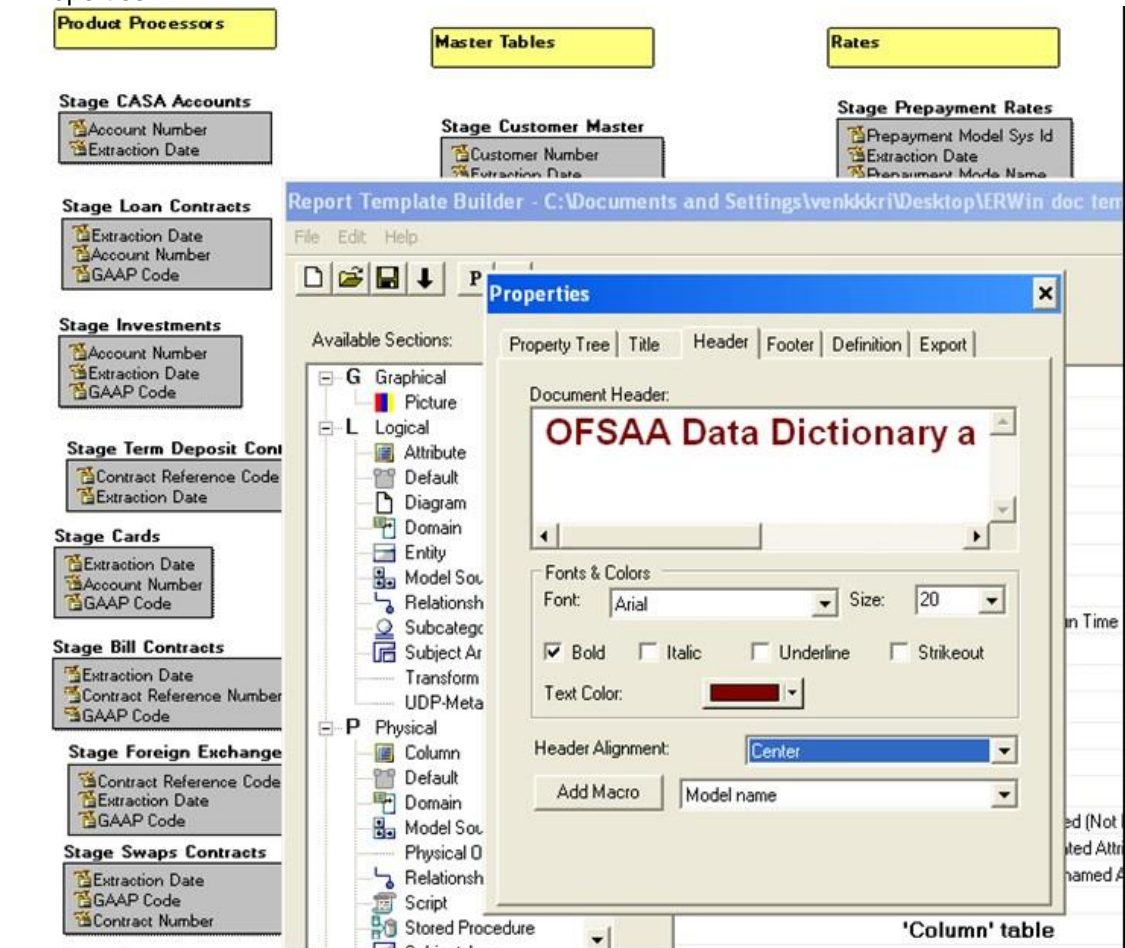
Step 5: Using the Edit button, change (if necessary) the following:

1. Location of the output HTML files/folders under the Export tab. The default is the same place as the downloaded template.

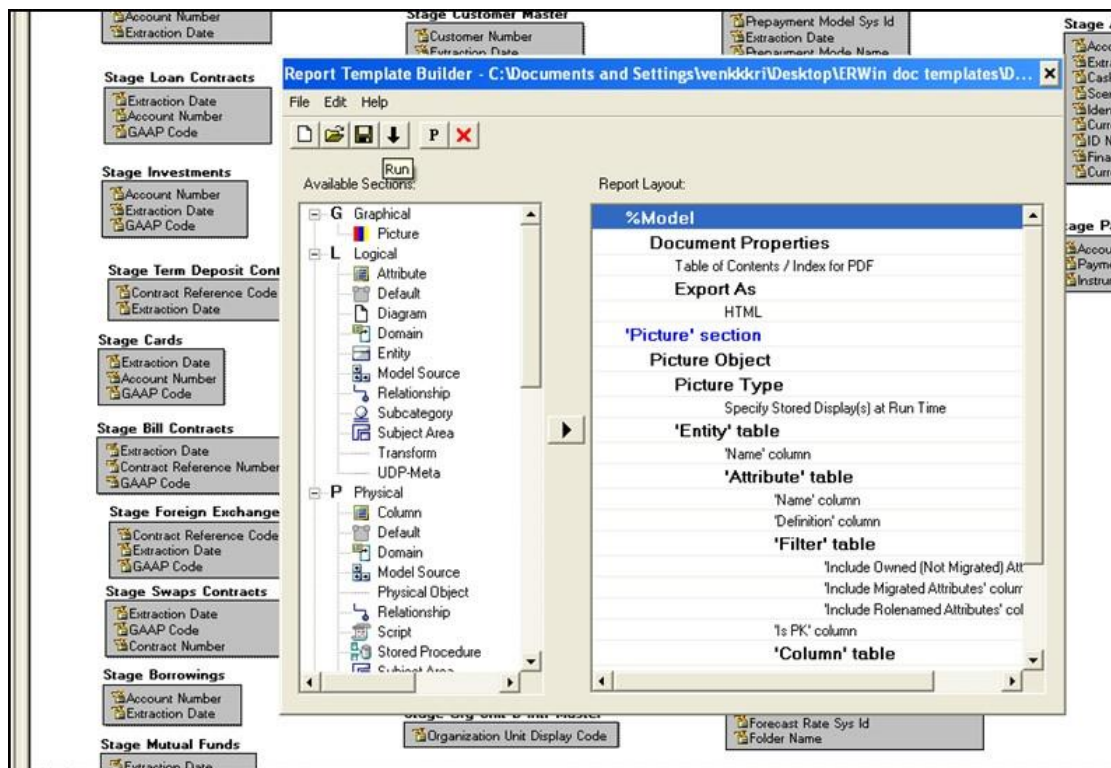


2. Formatting (if required): You can change formatting at a global level under Edit > Preferences in the Report Builder dialog box or at a template level under Edit

>Properties.



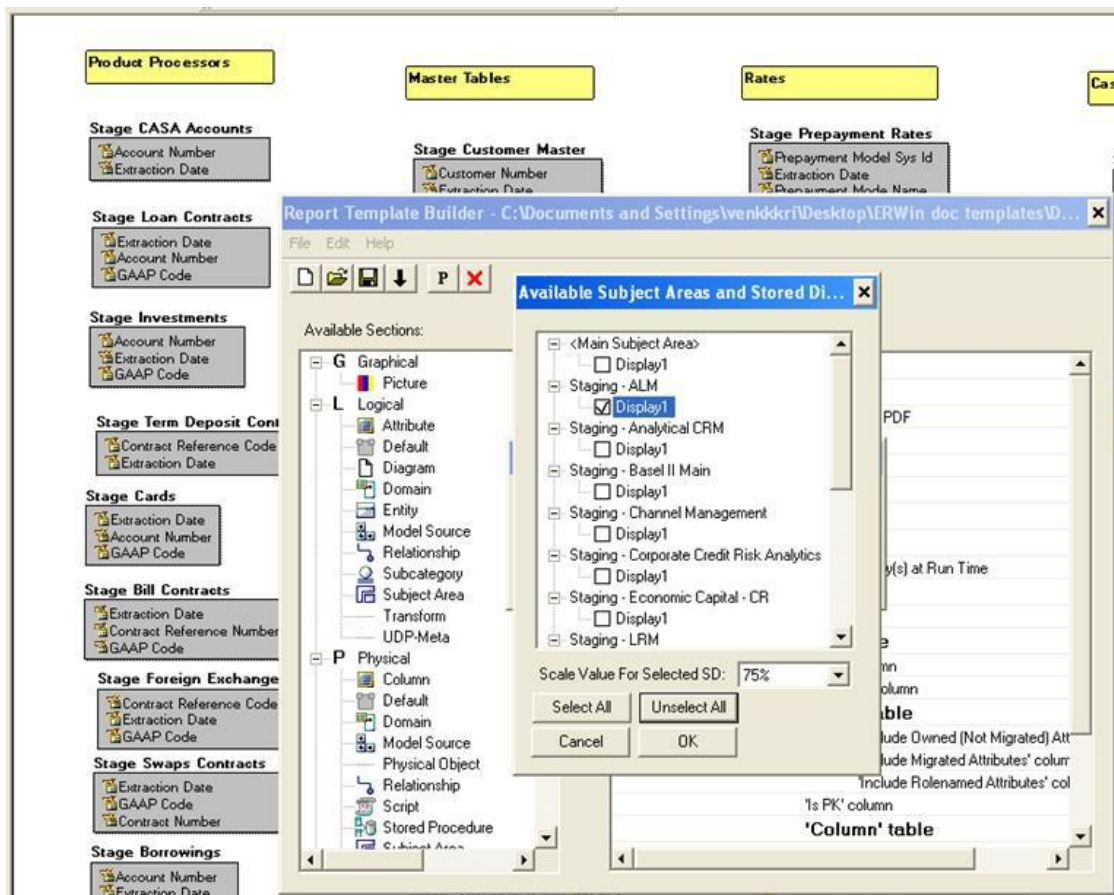
Step 6: Execute the template by clicking the Run icon, which is the icon with the arrow pointing downward.



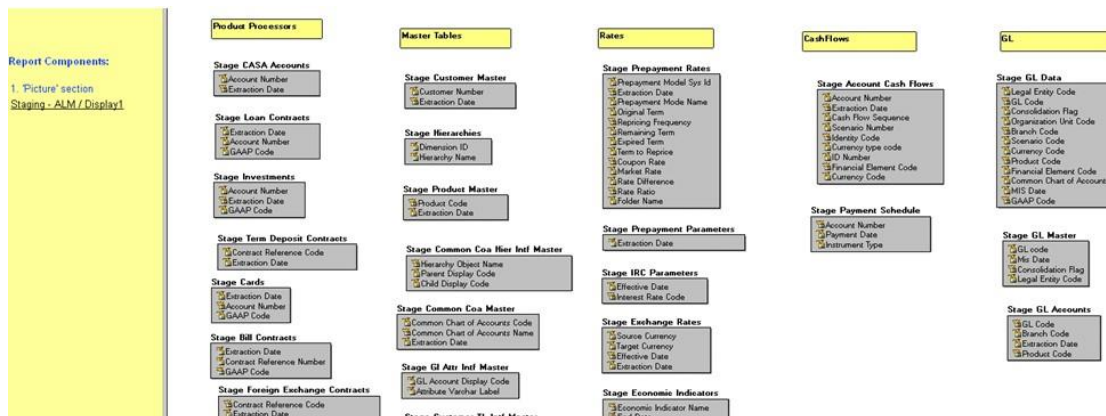
This should result in the 'Available Subject Area and Stored Displays' dialog box asking for which **Stored Displays** you want to generate the documentation. This is essentially a list of all ER diagrams by subject area that is part of your current model.

Select the ones you wish to generate, and additionally **adjust the scaling factor** to make the attributes legible. See the following diagram for reference.

Note: If the subject area diagram is too large; that is, if you choose the scaling, then the generation of the picture may fail. Therefore, you may need to iterate a few times to achieve the 'right' scaling factor for the diagram that makes it both visible, as well as, reasonably sized.



Step 7: Click **OK** in the 'Available Subject Area and Stored Displays' dialog box. This should continue the report run and finally generate a HTML page which has a left-hand navigation frame with each of the selected subject areas chosen in step 6.



Clicking each will open up the corresponding diagram that is generated as jpeg and clicking an entity will open up the corresponding entity's HTML page showing the attributes. The arrow at the far right for an attribute, under the 'Column' column, will take you to the corresponding physical column definition with datatype, length, and so on. For example, the following screenshot shows this for the Account Number attribute in the Stage CASA Accounts Table, and its corresponding physical column definition (v_account_number).

OFSAA Data Dictionary and Model Documentation					
Report Components: 1. Picture section Staging - ALM / Display1	Entity				
	Name Stage CASA Accounts				
	Attribute				
	Name	Definition		Is PK	Column
	Account Number	Account number		Yes	→

Name	Datatype	Null Option
v_account_number	VARCHAR(25)	NOT NULL

Step 8: You can customize the HTML output with stylesheets if required. This requires HTML/CSS knowledge.

Generating Download Specifications for Staging Area

Step 1: Download the latest template and associated pre-formatted Excel workbook container. You need Excel version 97-2003 or later.

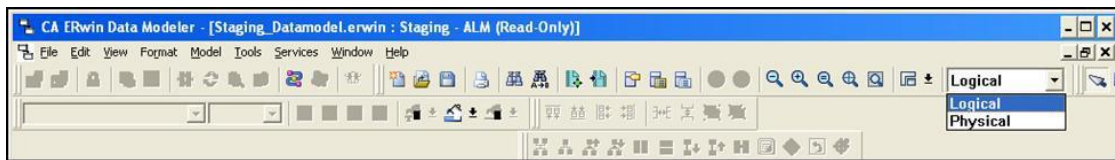
Note: The latest Download specification template is available at http://docs.oracle.com/cd/E26650_01/books/CommonDocuments/Download_Spec_Report_Template.erp

The extension is .erp (ERwin reports). *This is a different template facility than the one used for Data Dictionary documentation.*

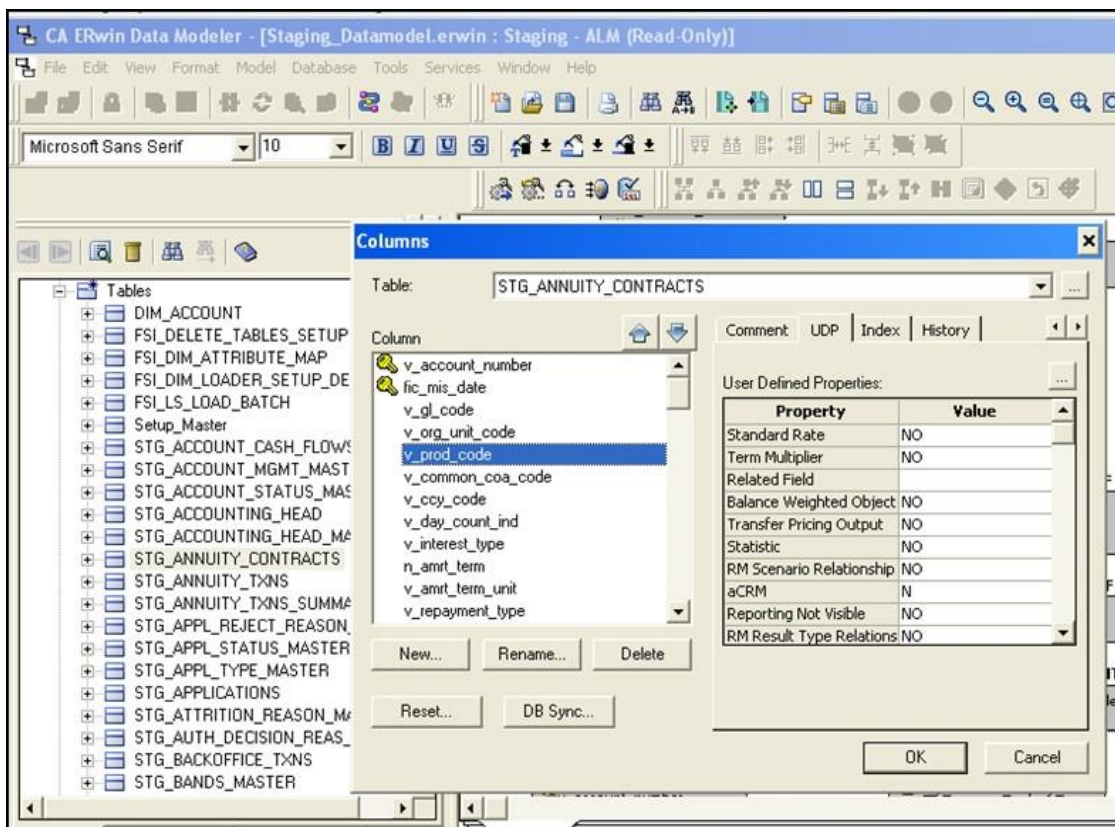
Step 2: Open the latest version of the **Staging Data Model** from which you want to generate the Download Specification.

All tables in the staging data model are either prefixed with 'STG_' or 'Stage' in the logical entity view.

Step 3: Verify that the User Defined Properties (UDPs) exist in the model. To do so, switch to the physical view by selecting this from the dropdown menu as shown in the following screenshot.



Now, double click any table in this view, to open up the details dialog box showing the detailed listing of columns for the table. Select any column, and scroll to the right, to the UDP tab. Click the tab. This should show you a list of UDPs applicable to that column. You should see something like the following screenshot.



In case you do not see the UDPs listed, recheck if you have the right version of the latest staging model.

Following table lists the Column UDP Names based on the specific financial services Applications like ALM, FTP, PFT, and so on.

Column UDP Name	Application	Full Name
ALM	ALM	Asset Liability Management
FTP	FTP	Funds Transfer Pricing
GL ReconR	GL ReconR	General Ledger Reconciliation
ICAAP	ICAAP	Internal Capital Adequacy Assessment Process
MR Var	MR Var	Market Risk
PFT	PFT	Profitability
ROREC	ROREC	Operation Risk and Economic Capital
RP	RP	Retail Pooling
BASEL_I	BASEL	Basel
BASEL_II_BIS_MR_IMM	BASEL	Basel
BASEL_II_BIS_MR_STD	BASEL	Basel
BASEL_II_BIS_NON_SEC_AIRB	BASEL	Basel
BASEL_II_BIS_NON_SEC_FIRB	BASEL	Basel
BASEL_II_BIS_NON_SEC_STD	BASEL	Basel
BASEL_II_BIS_OR_ALT_STD	BASEL	Basel
BASEL_II_BIS_OR_BIA	BASEL	Basel
BASEL_II_BIS_OR_STD	BASEL	Basel
BASEL_II_BIS_SEC_STD	BASEL	Basel
BASEL_II_IFSB_MR	BASEL	Basel
BASEL_II_IFSB_NON_SEC	BASEL	Basel
BASEL_II_IFSB_OR	BASEL	Basel
BASEL_II_IFSB_SEC	BASEL	Basel
BASEL_II_INDIA_MR_STD	BASEL	Basel
BASEL_II_INDIA_NON_SEC_STD	BASEL	Basel
BASEL_II_INDIA_OR	BASEL	Basel
BASEL_II_INDIA_SEC_STD	BASEL	Basel
BASEL_II_USA_NON_SEC	BASEL	Basel
BASEL_II_USA_SEC	BASEL	Basel
HM	HM	Hedge Management
LLFP	LLFP	Loan Loss Forecasting & Provisioning
LRM	LRM	Liquidity Risk Management
CREC	CREC	Credit Risk and Economic Capital
BASEL_II_BRAZIL_NON_SEC_STD	BASEL	Basel
BASEL_II_BRAZIL_OR_ALT_STD	BASEL	Basel
BASEL_II_BRAZIL_OR_BIA	BASEL	Basel
BASEL_II_BRAZIL_OR_SIMPLE_ALT_STD	BASEL	Basel
ESTCP	ESTCP	Enterprise Stress Testing
CR	CR	Capital Planning
CIRCA	CIRCA	Credit Risk
CIIPA	CIIPA	Customer Insight Retail
CIRPA	CIRPA	Customer Analytics
		Customer Insight Institutional
		Performance Analytics
		Customer Insight Retail
		Performance Analytics
		Customer Insight Channel
		Analytics

Column UDP Name	Application	Full Name
BASEL_III_BIS_NON_SEC_AIRB	BASEL	Basel
BASEL_III_BIS_NON_SEC_FIRB	BASEL	Basel
BASEL_III_BIS_NON_SEC_STD	BASEL	Basel
BASEL_III_BRAZIL_NON_SEC_STD	BASEL	Basel
BASEL_III_IFSB_NON_SEC	BASEL	Basel
BASEL_III_USA_NON_SEC	BASEL	Basel
BASEL_III_BIS_CAP_STRUCT	BASEL	Basel
ALMBI	ALMBI	Asset Liability Management
		Business Intelligence
OIPA	OIPA	Oracle Insurance Performance
		Analytics
Oracle Insurance Solvency II Analytics	Oracle Insurance Solvency II Analytics	Oracle Insurance Solvency II Analytics
BASEL_III_USA_SEC_IRB	BASEL	Basel
MR	MR	Market Risk
		Qualitative Management
QMR	QMR	Reporting
		Enterprise Financial
EFPA	EFPA	Performance Analytics
BASEL_III_USA_CAP_STRUCT	BASEL	Basel
IFRS	IFRS	
BASEL_II_BIS_CAP_STRUCT	BASEL	Basel
BASEL_II_BIS_SEC_RBA	BASEL	Basel
BASEL_II_BRAZIL_CAP_STRUCT	BASEL	Basel
BASEL_II_BRAZIL_MR_STD	BASEL	Basel
BASEL_II_CBRC_CAPITAL	BASEL	Basel
BASEL_II_CBRC_MR	BASEL	Basel
BASEL_II_CBRC_NON_SEC	BASEL	Basel
BASEL_II_CBRC_OR	BASEL	Basel
BASEL_II_CBRC_SEC	BASEL	Basel
BASEL_II_IFSB_CAPITAL	BASEL	Basel
BASEL_III_BIS_LEVERAGE_RATIO	BASEL	Basel
BASEL_III_BIS_SEC_IRB	BASEL	Basel
BASEL_III_BIS_SEC_SFA	BASEL	Basel
BASEL_III_BIS_SEC_STD	BASEL	Basel
BASEL_III_USA_LEVERAGE_RATIO	BASEL	Basel
BASEL_III_USA_SCP_EXP_LMT	BASEL	Basel
BASEL_II_BIS_REPORTING	BASEL	Basel
BASEL_III_BIS_REPORTING	BASEL	Basel
	BD	Behavior Detection Anti Money
BD-AML		Laundering
BD-FR	BD	Behavior Detection Fraud
	BD	Behavior Detection Trade
BD-TC		Compliance
	BD	Behavior Detection Broker
BD-BC		Compliance
BASEL_II_BIS_SEC_IRB	BASEL	Basel
ORA	ORA	Operational Risk Analytics
BASEL_III_USA_SEC	BASEL	Basel
Basel III - Capital Structure	BASEL	Basel
Basel III - Credit Risk - Non Securitization –	BASEL	Basel

Column UDP Name	Application	Full Name
STD		
Basel_III_INDIA_CAP_STRUCT	BASEL	Basel
FAH	FAH	Fusion Accounting Hub
Relationship Pricing	Relationship Pricing	Relationship Pricing
BASEL_III_INDIA_MR_STD	BASEL	Basel
Basel_III_INDIA_SEC_STD	BASEL	Basel
BASEL_III_USA_STD	BASEL	Basel
	FATCA	Foreign Account Tax
FATCA		Compliance Act
OR	OR	Operational Risk
BD-CTR	BD	Behavior Detection
BASEL_III_CBRC_IRB	BASEL	Basel
BASEL_III_CBRC_STD	BASEL	Basel
BSP	BSP	Balance Sheet Planning
	RRDF	Regulatory Reporting Data
RRDF		Foundation

Following table lists the Table level UDP Names based on the specific financial services Applications like ALM, FTP, PFT, and so on.

Table level UDP Name
Staging - ALM Analytics
Staging - ALM
Staging - BSP
Staging - Basel II Analytics
Staging - Basel II
Staging - CA
Staging - EC
Staging - FTP
Table level UDP Name
Staging - GL RECON
Staging - ICAAP
Staging - LRM
Staging - Market Risk Analytics
Staging - Market Risk
Staging - OREC
Staging - PFT Analytics
Staging - PFT
Staging - PM - Capital Charge
Staging - PM - Transfer Pricing
Staging - Retail Pooling
Staging - HM
Staging - LLFP

ALM
 Oracle Mantas BC
 Oracle Mantas FR
 Oracle Mantas ML
 Oracle Mantas TC
 Oracle Insurance Solvency II Analytics
 ESTCP
 CRA
 CI - Institutional
 CI - Retail
 CI - Customer
 CI - Channel
 Staging - CRA
 GLRECON
 Staging - Basel III
 OIPA
 EFPA
 Solvency II
 QMR
 Reporting - Basel II
 Reporting - Basel III
 ORA
 OR
 Staging - OIPA
 BASEL III USA STD

Table level UDP Name

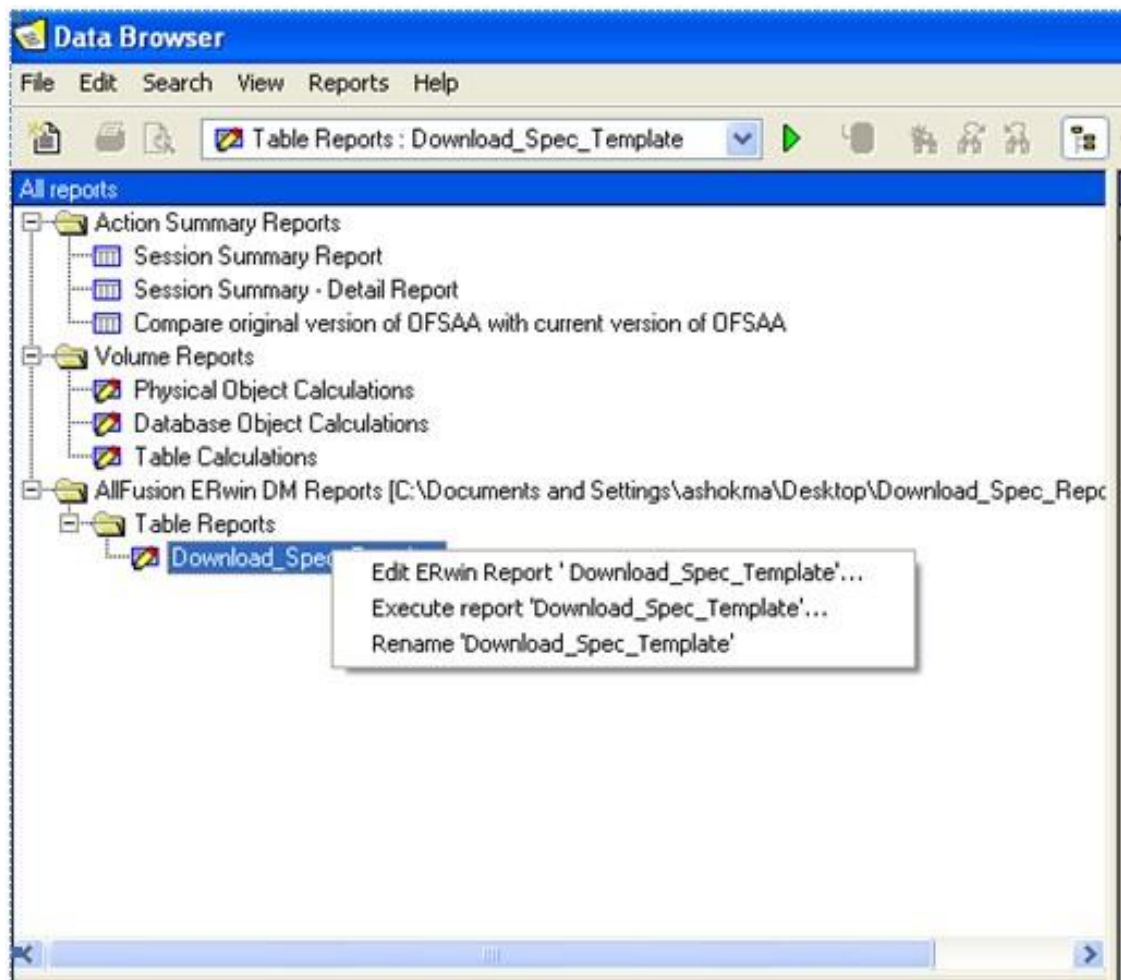
FAH
 Relationship Pricing
 BASEL III - Credit Risk - Non Securitization - STD
 BASEL III - Market Risk
 Basel III - Equity
 Staging - Basel III Main
 Mantas- FATCA
 LRM
 RRDF

Note: If a table UDP of an App is updated as 'yes', then all PK columns should be considered as DL-MAN in the download specifications.

To add the UDPs specific to an application, you need to edit your template, Download_Spec_Report_Template.erp.

To edit the template,

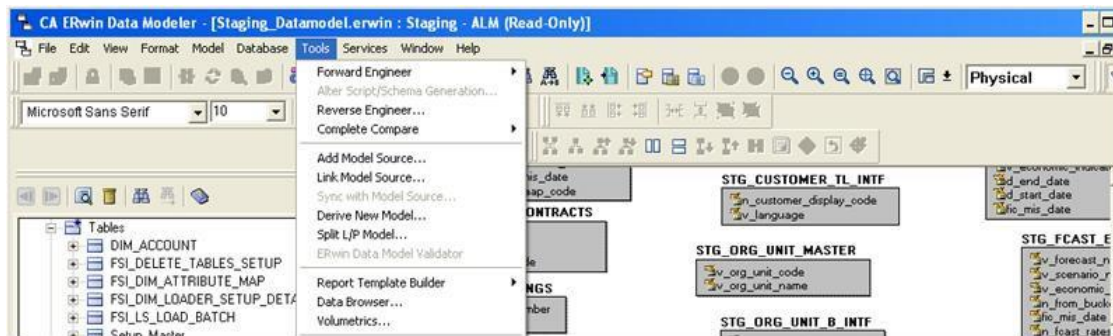
- Select Tools, Data Browser, Reports, and then select Open Report File.
- In the dialog box that opens, navigate and select Download_Spec_Report_Template.erp. The template, Download_Spec_Report_Template.erp appears under **Table Reports** in the left side. See the following screenshot.



- Right click Download_Spec_Report_Template.erp and edit the template.
- Click the Columns and UDPs in the template and select the UDPs based on the application.

Step 4: Make sure the Excel Workbook (DLSpecContainer.xls) is open, and cell A1 is selected. This is necessary because you will be using the DDE facility to directly output to a pre-configured/pre-formatted Excel workbook. Alternatively, you can save the output of the ERwin as a csv file and open it in Excel, but you will have to handle the formatting by yourself in this case.

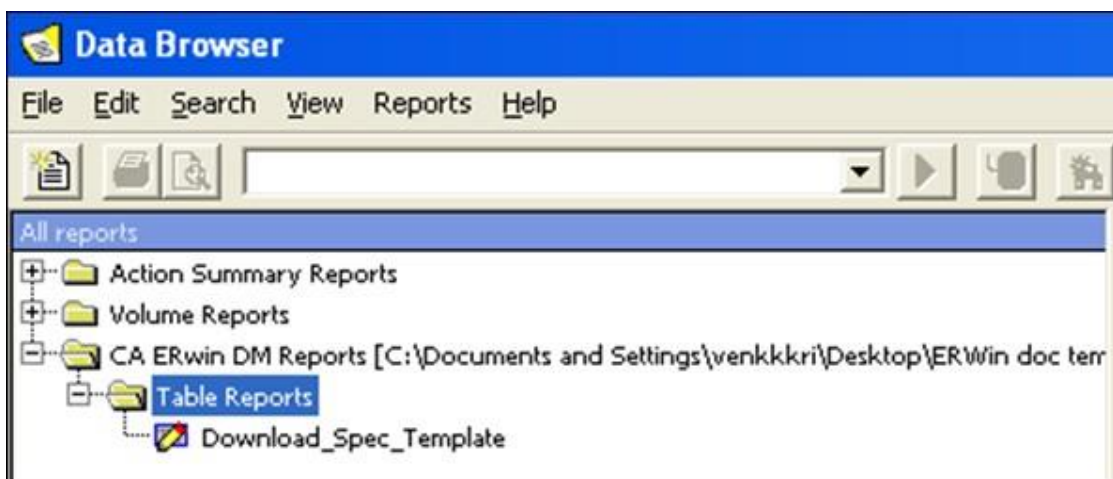
Step 5: Navigate to Data Browser under the Tools menu.



This will open up a separate window for the Reporting Data Browser, which looks like following screenshot. From here, click Reports then click the Open Reports File.



Locate the downloaded template and click it, to load the template. Your left view should look like the following screenshot:



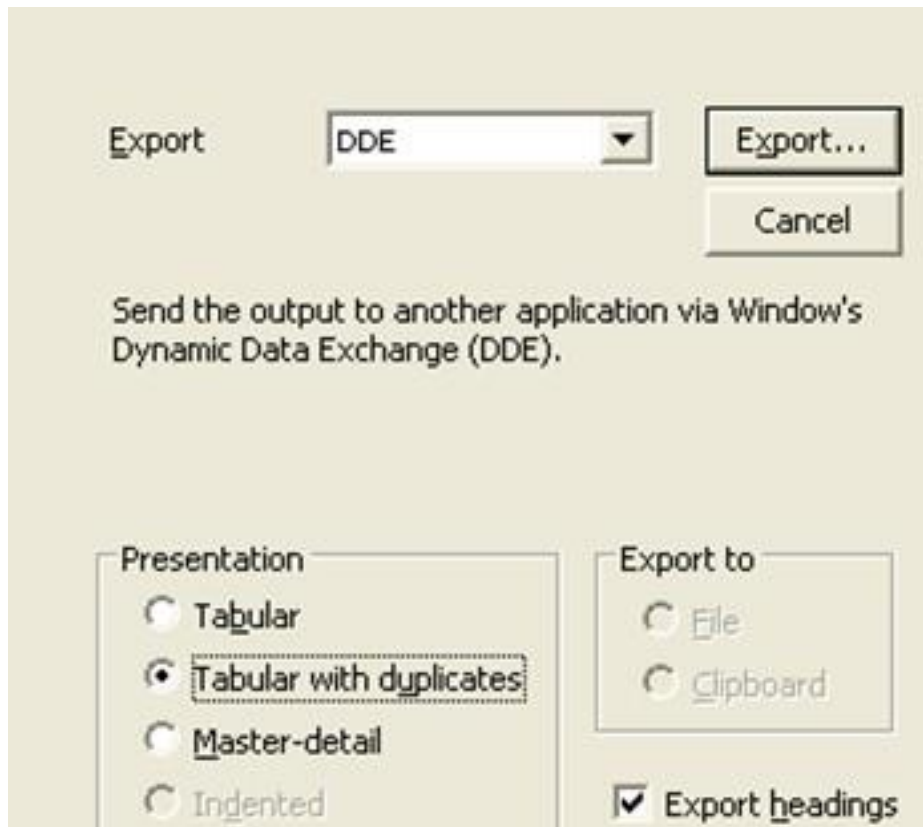
Step 6: Double click the template to execute it. This will generate a result set on the right, which looks like the following screenshot:

Table Name	Table Column Name	Table Column Datatype	Table Column Null Option	Table Column Is PK	Table Column Comment	Table Column Is FK	Table Column Comment	Table Column ALM	Table Column BASEL2
Setup_Master	v_component_code	VARCHAR2(50)	NOT NULL	Yes	Component / Parameter code.	No		DL-NO	DL-NO
	v_component_desc	VARCHAR2(500)	NOT NULL	No	Description of component.	No			
	v_component_value	VARCHAR2(200)	NOT NULL	No	Value of parameter / component.	No			
STG_ACCOUNT_ADDRESS	V_CITY	VARCHAR2(255)	NULL	No	City component of this address.	No		DL-OPT	DL-NO
	V_COUNTRY	VARCHAR2(255)	NULL	No	Country code of this address.	No			
	V_ADDRESS_LINE1	VARCHAR2(255)	NULL	No	Fifth line of the address.	No			
	V_ADDRESS_LINE2	VARCHAR2(255)	NULL	No	First line of the address.	No			
	V_ADDRESS_LINE3	VARCHAR2(255)	NULL	No	Second line of the address.	No			
	V_ADDRESS_LINE4	VARCHAR2(255)	NULL	No	Third line of the address.	No			
	V_ACCOUNT_NUMBER	VARCHAR2(50)	NOT NULL	Yes	Identifier of the account.	No	Yes	No	
	V_POSTAL_CODE	VARCHAR2(10)	NULL	No	Postal code component of this address.	No	No	No	
	V_ADDRESS_PURPOSE	VARCHAR2(20)	NOT NULL	Yes	Purpose, or usage, of this address relative to this customer (for example, M-Holding Address or Region or province).	No	Yes	No	
	V_REGION	VARCHAR2(60)	NULL	No	Region or province.	No	No	No	
	V_ADDRESS_LINE2	VARCHAR2(255)	NULL	No	Second line of the address.	No			
	V_ADDRESS_LINE3	VARCHAR2(255)	NULL	No	Third line of the address.	No			
	V_DATA_ORIGIN	VARCHAR2(20)	NULL	No	Source system from which this data content has been extracted.	No			
	V_STATE	VARCHAR2(255)	NULL	No	State or province.	No			
	V_ADDRESS_LINE3	VARCHAR2(255)	NULL	No	Third line of the address.	No			
	FIC_MIS_DATE	DATE	NOT NULL	Yes	This refers to the date on which processing commences. This is ideally, indicates if the beneficiary is the same as customer.	No	Yes	No	
STG_ACCOUNT_BENEFICIARY	f_bene_name_as_cust_flag	CHAR(1)	NULL	No	Indicates if the beneficiary is the same as customer.	No	No	No	
	n_proportional_share	NUMBER(8,4)	NULL	No	This column stores the proportional share in percentage.	No			
	v_relationship_type	VARCHAR2(10)	NULL	No	This column stores the relationship type as Nominee or Beneficiary.	No			
	v_account_number	VARCHAR2(50)	NOT NULL	Yes	This column stores the unique identifier of the account.	No	Yes	No	
	v_bene_ref_code	VARCHAR2(40)	NOT NULL	Yes	This column stores the unique identifier of the beneficiary.	No			

Step 6b (Optional): You can perform a lot of additional formatting such as changing the column names and ordering by right clicking the result set in the left pane and choosing 'Edit Report Format'.

Table Name	Table Column Name	Table Column Datatype	Table Column Null Option	Table Column Comment	Table Column Is FK
STG_ACCOUNT_CASH_FLOWS	v_account_number	VARCHAR2(25)	NOT NULL	Account Number	Yes
	fic_mis_date	DATE	NOT NULL	MIS Date	Yes
	n_cash_flow_sequence	NUMBER(5)	NOT NULL	Cash Flow Sequence	Yes
	n_scenario_no	NUMBER(5)	NOT NULL	Scenario Number	Yes
	n_acct_data_identity_cd	NUMBER(10)	NOT NULL	Identity Code	Yes

Step 7: Once you are done with setting the formatting options for the output, from the File menu, click 'Export' to bring up the Export dialog box. From the dropdown list, select DDE. In the Presentation section, select 'Tabular with Duplicates'. Check, 'Export headings'.



Before clicking **Export...**, ensure that the downloaded Excel workbook DL_Spec_Output_Container.xls is open, and cell A1 is selected.

Now click, **Export...**. You will see a list of open Excel worksheets. Select DL_Spec_Output_Container.xls and wait for the operation to complete. This can be slow, especially for larger models.

Table Name	Table Column Name	Datatype	Option	Table Column Null	Table Column PK	Table Column Comment	Table Column FK	Attribute Is PK	Attribute Is FK	ALM	BASEL_I
Setup_Master	v_component_code	VARCHAR(250)	NOT NULL	Yes	Component / Parameter code.	No	Yes	No	No	DL-NO	DL-NO
Setup_Master	v_component_desc	VARCHAR(2500)	NOT NULL	No	Description of component.	No	No	No	No	DL-NO	DL-NO
Setup_Master	v_component_value	VARCHAR(200)	NOT NULL	No	Value of parameter /	No	No	No	No	DL-NO	DL-NO
STG_ACCOUNT_ADDRESS	V_CITY	VARCHAR(255)	NULL	No	City component of this address.	No	No	No	No	DL-OPT	DL-NO
STG_ACCOUNT_ADDRESS	V_COUNTRY	VARCHAR(255)	NULL	No	Country code of this address.	No	No	No	No	DL-OPT	DL-NO
STG_ACCOUNT_ADDRESS	V_ADDRESS_LINES	VARCHAR(255)	NULL	No	Fifth line of the address component of this address.	No	No	No	No	DL-OPT	DL-NO
STG_ACCOUNT_ADDRESS	V_ADDRESS_LINE1	VARCHAR(255)	NULL	No	First line of the address component of this address.	No	No	No	No	DL-OPT	DL-NO
STG_ACCOUNT_ADDRESS	V_ADDRESS_LINE4	VARCHAR(255)	NULL	No	Fourth line of the address component of this address.	No	No	No	No	DL-OPT	DL-NO
STG_ACCOUNT_ADDRESS	V_ACCOUNT_NUMBER	VARCHAR(250)	NOT NULL	Yes	Identifier of the account for which this is an address.	No	Yes	No	No	DL-OPT	DL-NO
STG_ACCOUNT_ADDRESS	V_POSTAL_CODE	VARCHAR(210)	NULL	No	Postal code component of this address.	No	No	No	No	DL-OPT	DL-NO
STG_ACCOUNT_ADDRESS	V_ADDRESS_PURPOSE_TYPE	VARCHAR(20)	NOT NULL	Yes	Purpose, or usage, of this address relative to the customer (for example, M-Mailing Address or B-Business Address, L-Legal, P-Primary, X-Post Office Box etc).	No	Yes	No	No	DL-OPT	DL-NO
STG_ACCOUNT_ADDRESS	V_REGION	VARCHAR(60)	NULL	No	Region or province component of this address.	No	No	No	No	DL-OPT	DL-NO
STG_ACCOUNT_ADDRESS	V_ADDRESS_LINE2	VARCHAR(255)	NULL	No	Second line of the address component of this address.	No	No	No	No	DL-OPT	DL-NO
STG_ACCOUNT_ADDRESS	V_ADDRESS_LINE6	VARCHAR(255)	NULL	No	Sixth line of the address component of this address.	No	No	No	No	DL-OPT	DL-NO
STG_ACCOUNT_ADDRESS	V_DATA_ORIGIN	VARCHAR(20)	NULL	No	Source system from which this data content has been extracted.	No	No	No	No	DL-OPT	DL-NO
STG_ACCOUNT_ADDRESS	V_STATE	VARCHAR(255)	NULL	No	State or province component of this address.	No	No	No	No	DL-OPT	DL-NO

Conclusion

Factors like customizations, different license purchases, and so on, made the data model document generation a challenge. However, the model reporting capabilities of ERwin to come up with customized documentation in different formats has helped in developing the data model documents like data dictionary and download specifications, quite easier. With the help of templates, it is now possible to create data dictionaries for OFSAA and OFSDF. Similarly, with another set of templates, it is feasible to have download specifications for OFSAA Staging area.

Appendix A

User-defined properties are set for tables and columns within ERwin.

The following user defined properties can be set for the column:

UDP Name	Description	List of values
Balance Range	Property to identify if the column within a table classified as 'PA Lookup Table' needs to be displayed under 'Range' within Lookup table definition.	YES / NO
Balance	Property to identify if the column is of type 'Balance'.	YES / NO
Standard Rate	Property to identify if the column is of type 'Standard Rate'.	YES / NO
Balance Weighted Object	Property to identify if the column is of type 'Balance Weighted Object'.	YES / NO
Processing Key	Property to identify if this column is used as a 'Processing Key' within the instrument, transaction and ledger_stat table.	YES / NO
Multiplier Related Field	Property to specify the name of the column that is used to store the multiplier for the corresponding 'Frequency' column. This property is used in Filters UI within OFSAAL.	Text
Related Field	Property to specify the name of the column that is used to store the multiplier for the corresponding 'Term' column. This property is used in Filters UI within OFSAAL.	Text
Term Multiplier	Property to identify if the column is used to store 'Term'. This property is used in Filters UI within OFSAAL.	YES / NO
Column Alias	Property to specify an alias for the column. This is used within the staging loader program for loading LEDGER_STAT table.	Text
Transfer Pricing Output	Property to identify if the column needs to be set as an alternate output column for writing transfer rates by transfer pricing engine.	YES / NO
Option Cost Output	Property to identify if the column needs to be set as an alternate output column for writing option	YES / NO

UDP Name	Description	List of values
	costing output by transfer pricing engine.	
Other Adj Spread Output	Property to identify if the column needs to be set as an alternate output column for writing other adjustment spread by transfer pricing engine.	YES / NO
Other Adj Amount Output	Property to identify if the column needs to be set as an alternate output column for writing other adjustment amount by transfer pricing engine.	YES / NO

Note: The user-defined property DT/FE/DT1 is not used within EPM applications. This property was introduced to categorize each attribute as Download (DL)/ Front-end (FE) / Computed through data transformation (DT). This property is used by ERM applications. This property may be discontinued and will be replaced by application specific user-defined properties to identify if the column is mandatory during download (DL-MAN) or optional during download (DL-OPT) or not required to be downloaded (DL-NO).

Appendix B

This appendix is applicable for customers with ERwin 9.x version and above.

- For applications that qualify on FSDf 7.4.1.0.0, use the [OFSAA Data Model Dictionary Template - FSDf 741](#) Template to generate DL-SPEC/Data Dictionary.
- For applications that qualify on FSDf 7.4.2.0.0, use the [OFSAA Data Model Dictionary Template - FSDf 742](#) Template.
- For applications that qualify on FSDf 8.0.0.0.0, use the [OFSAA Data Model Dictionary Template –FSDf 800](#) Template.
- For applications that qualify on FSDf 8.0.1.0.0, use the [OFSAA Data Model Dictionary Template – FSDf 801](#) Template.
- For applications that qualify on FSDf 8.0.2.0.0, use the [OFSAA Data Model Dictionary Template – FSDf 802](#) Template.
- For applications that qualify on FSDf 8.0.3.0.0, use the [OFSAA Data Model Dictionary Template – FSDf 803](#) Template.
- For applications that qualify on FSDf 8.0.4.0.0, use the [OFSAA Data Model Dictionary Template – FSDf 804](#) Template.

The new excel based template will enable user to generate both the data dictionary as well as the download specification using a single template. If you do not select any UDP's in the selection form, then the template will generate the Data dictionary only, and if the UDP's are selected , then it will generate DL-SPEC + Data Dictionary.

Perform the following steps to do the same:

1. Ensure that the Erwin Data Modeler version is Erwin 9 or later
2. Ensure macros are enabled in this excel before execution
3. Open the OFSAA data model in Erwin 9 or a later version before executing this template
4. Click the button below to launch the UDP selection Menu
5. Select the appropriate application UDP's(optional) and click on "Generate Report" button
6. On successful execution, the following message is displayed "Report generation is Complete"
7. Find the download specification and the data dictionary report in "OFSAA_Download_Spec" worksheet



Data Model Document Generation
May 2015
Author: Arpana Danayak/Vineeta
Mishra/Swati Bose
Contributor: Guruprasad Thiruvachi

Oracle Corporation
World Headquarters
500 Oracle Parkway
Redwood Shores, CA 94065
U.S.A.

Worldwide Inquiries:
Phone: +1.650.506.7000
Fax: +1.650.506.7200

oracle.com



Oracle is committed to developing practices and products that help protect the environment

Copyright © 2017, Oracle and/or its affiliates. All rights reserved. This document is provided for information purposes only and the contents hereof are subject to change without notice. This document is not warranted to be error-free, nor subject to any other warranties or conditions, whether expressed orally or implied in law, including implied warranties and conditions of merchantability or fitness for a particular purpose. We specifically disclaim any liability with respect to this document and no contractual obligations are formed either directly or indirectly by this document. This document may not be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without our prior written permission.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark licensed through X/Open Company, Ltd. 0112

Hardware and Software, Engineered to Work Together