

# Prototype for PowerExchange to Essbase Client Java based Designer

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BE Computer Science(Final Year)



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- Development Environment
  - Informatica PowerCenter, Powerexchange and APIs
  - Essbase and its various APIs
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# Introduction

- Informatica Corporation
  - About
  - Software
  - Market

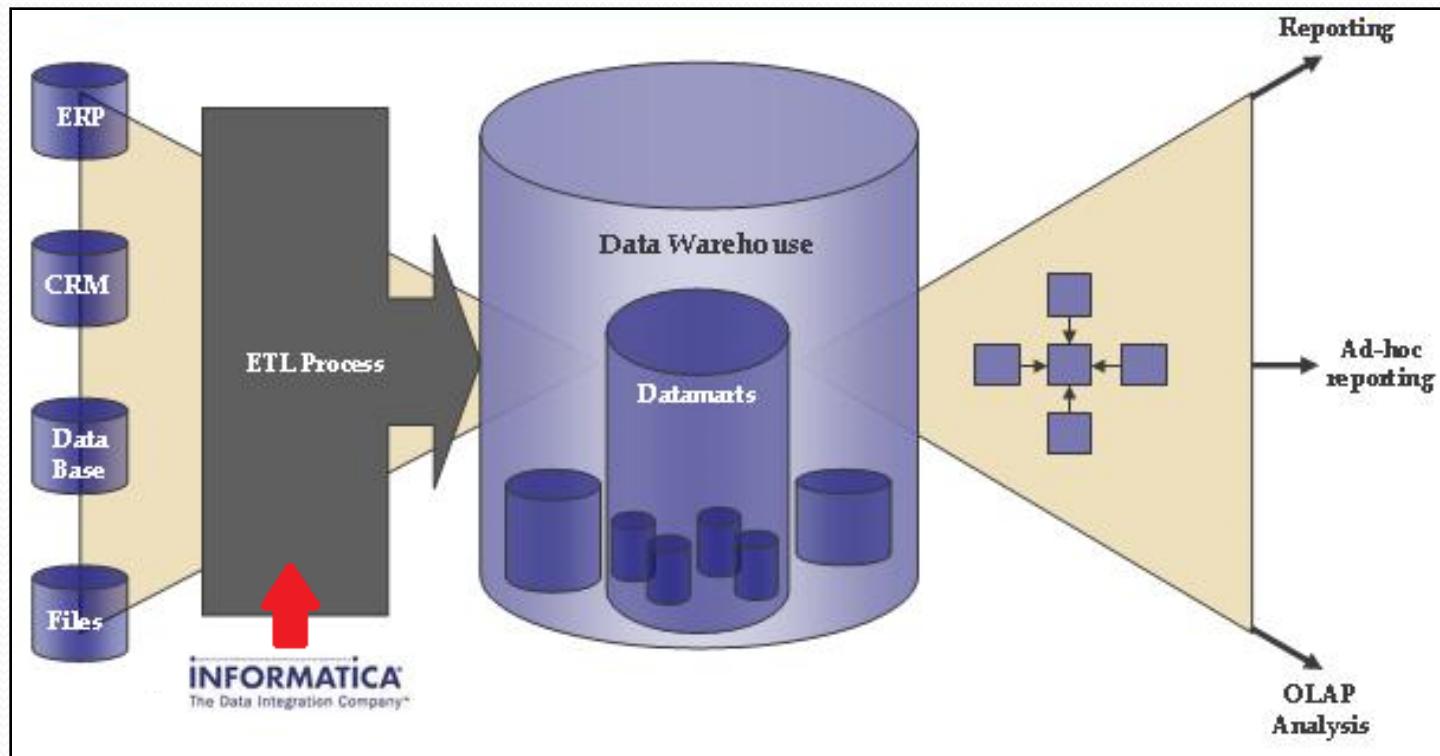
• <b>Founded:</b>	1993
• <b>Headquarters:</b>	Redwood City, CA
• <b>Employees:</b>	1,300+
• <b>Offices:</b>	N. & S. America, Europe, Asia Pacific
• <b>Revenue:</b>	\$391 million (2007)
• <b>3-year Compound Annual Growth Rate:</b>	21% per year
• <b>Market share leader</b>	(Gartner Dataquest)
• <b>Customers:</b>	2,950+ <ul style="list-style-type: none"><li>• 91 of Fortune 100</li><li>• 80%+ of Dow Jones</li><li>• Government organizations in 20 countries</li></ul>
• <b>Partners:</b>	Over 400 major SI, ISV, OEM and On Demand

**Singular focus on Data Integration  
Products and Services**

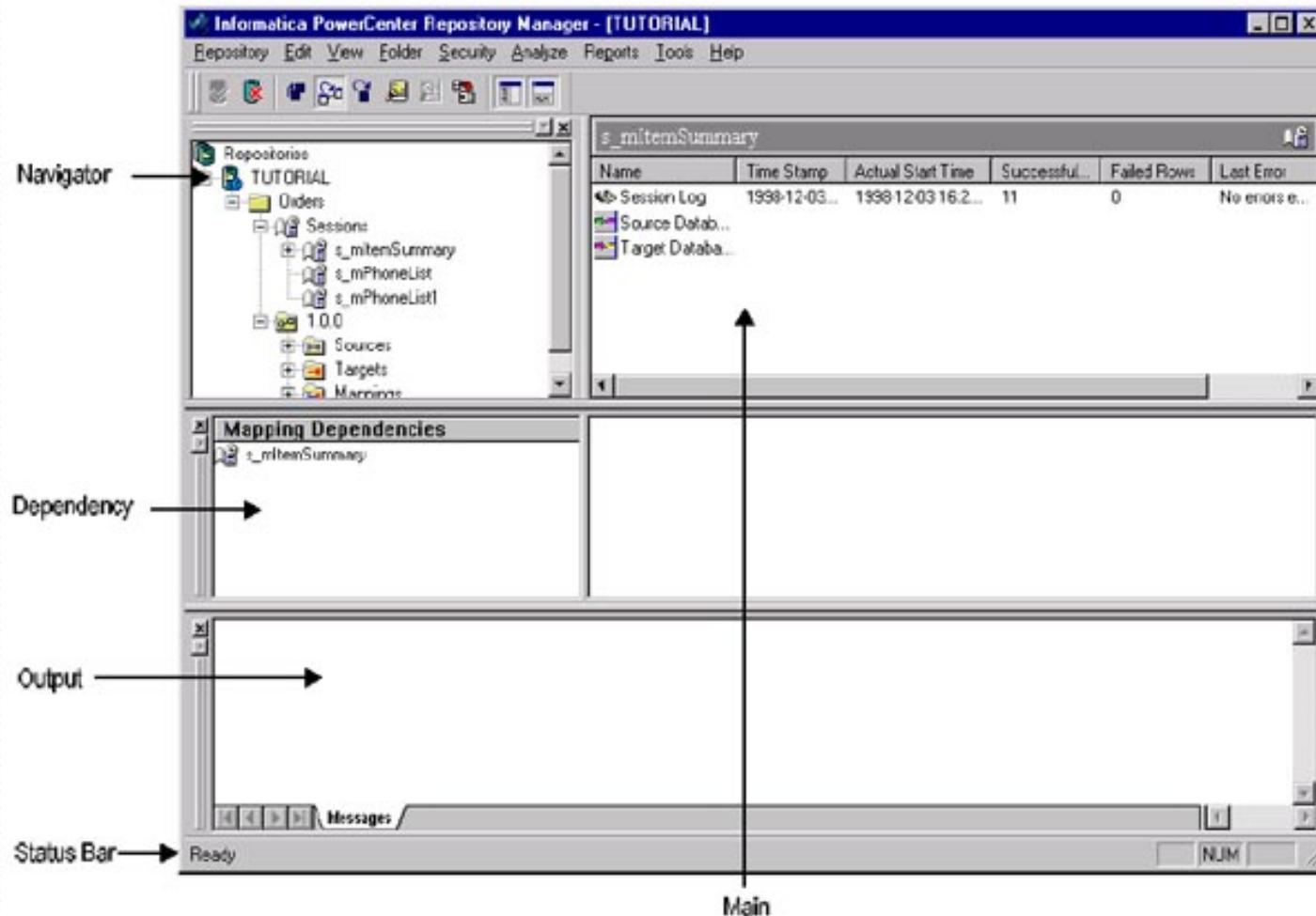


# Development Environment

## Extract-Transform-Load (ETL)



# PowerCenter Repository Manager



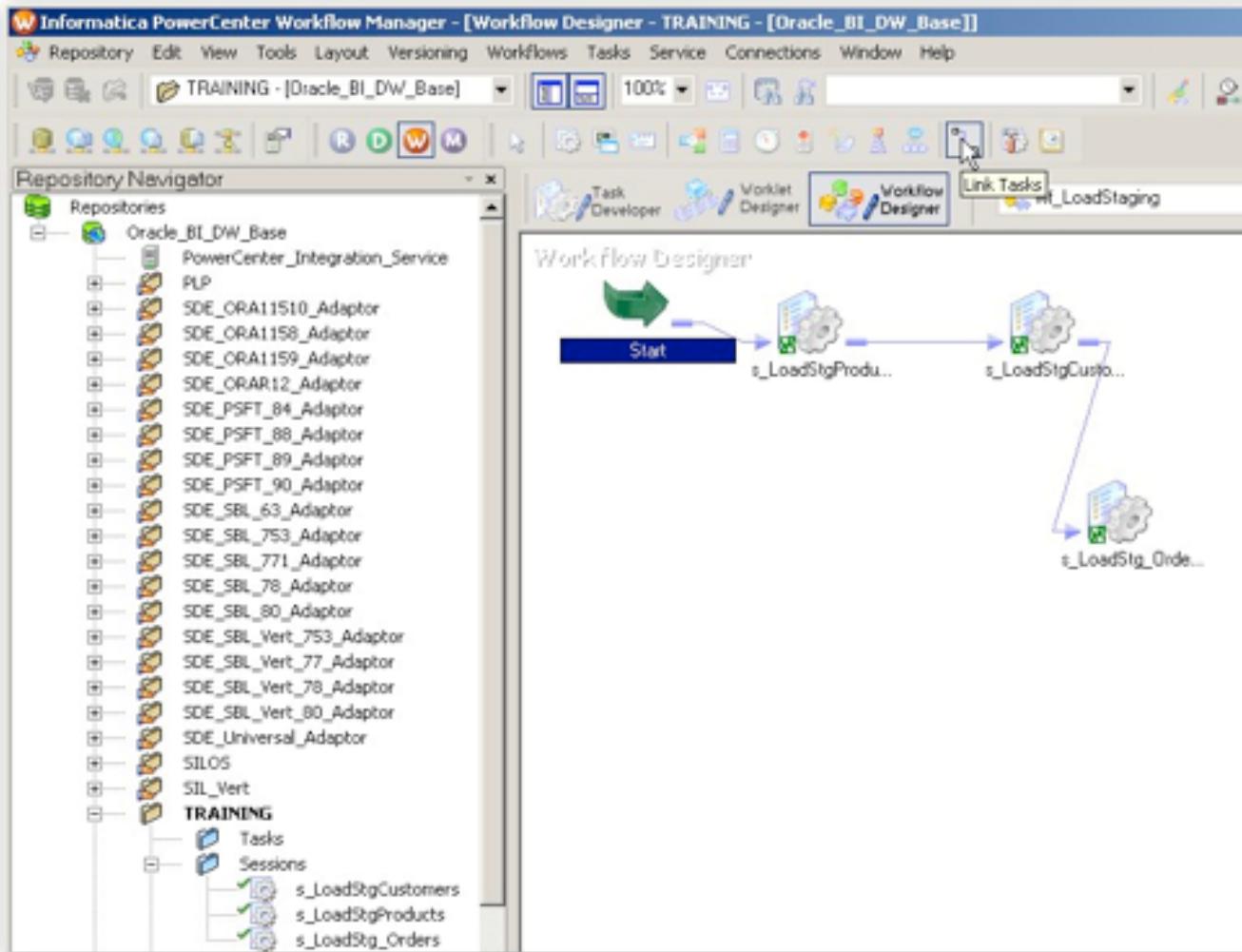
# PowerCenter Designer

The screenshot illustrates the Informatica PowerCenter Designer interface, divided into several main sections:

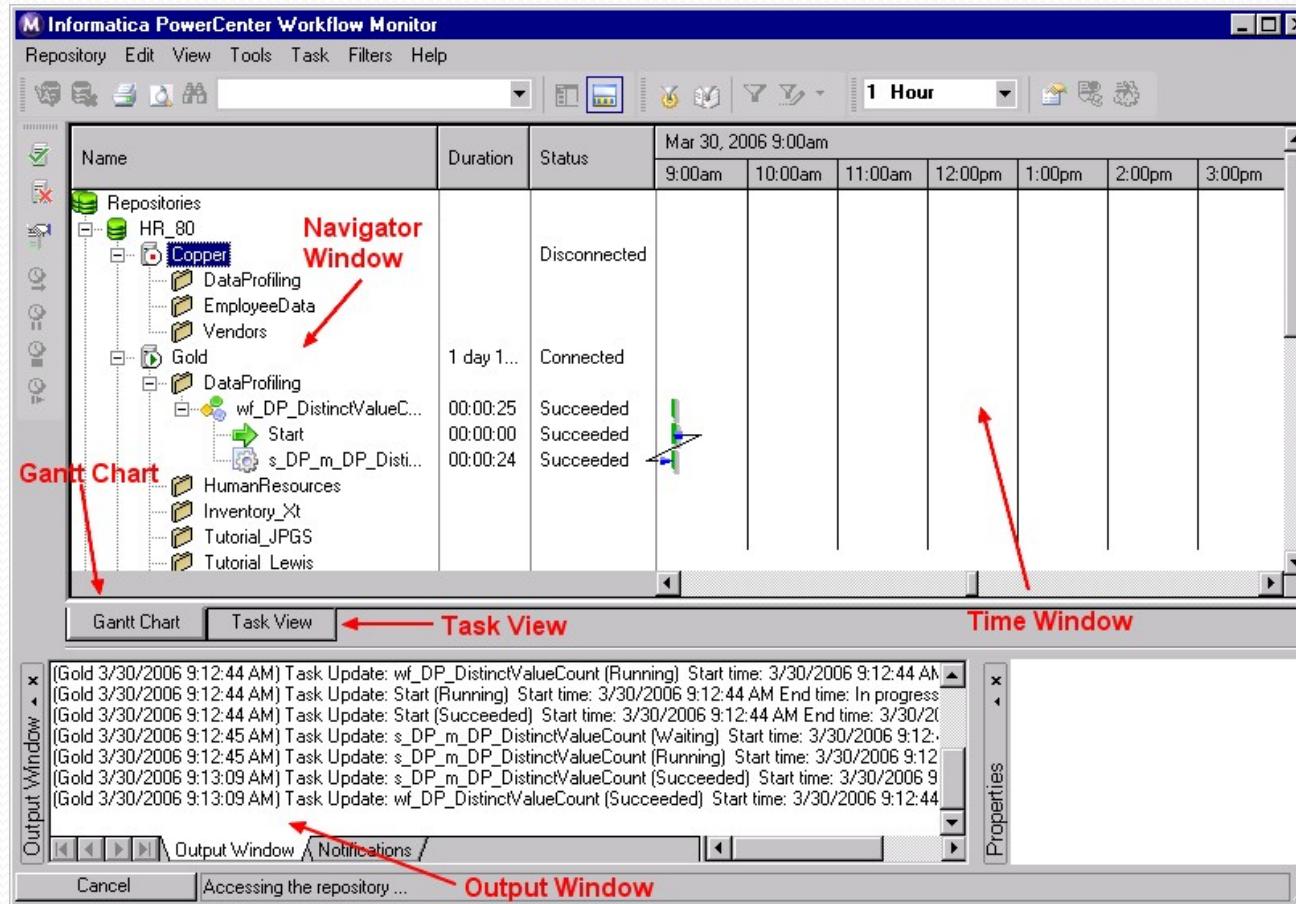
- Import Tables Dialog:** A modal window titled "Import Tables" for connecting to a "TUTORIAL\_SOURCE (SQL Server)" database. It shows the "Tables" tree with various schema objects like CUSTOMERS, DISTRIBUTORS, EMPLOYEES, etc.
- Edit Tables Dialog:** A modal window titled "Edit Tables" for the "MY\_SOURCE\_EMPLOYEES" table. It displays the table structure with columns: EMPLOYEE\_ID, JOB\_ID, FIRST\_NAME, LAST\_NAME, ADDRESS1, ADDRESS2, CITY, STATE, and PCSTAL\_CODE. Primary key and foreign key relationships are defined.
- Mapping Designer Workspace:** The central workspace for defining data transformations. It includes:
  - Navigator:** A tree view of repositories and mappings, currently expanded to show the "Orders" mapping under the "TUTORIAL" repository.
  - Source Definition:** A grid showing the "EMPLOYEES" source definition with columns: K. Name, Data, and various attributes like EMPLOYEE\_ID, JOB\_ID, FIRST\_NAME, LAST\_NAME, and ADDRESS1.
  - Target Definition:** A grid showing the "T\_EMPLOYEES" target definition with columns: K. Name, Data type, and attributes like EMPLOYEE\_ID, LAST\_NAME, FIRST\_NAME, and OFFICE\_PHO...
  - Source Qualifier:** A grid showing the "SQL\_EMPLLOYEES" source qualifier with columns: Name, Database, and attributes like EMPLOYEE\_ID, JOB\_ID, FIRST\_NAME, LAST\_NAME, and ADDRESS1.
  - Output:** A panel at the bottom for managing the output of the mapping, with buttons for Save, Generate, and Validate.
  - Status Bar:** Located at the bottom left, showing the status "Ready".
  - Workspace:** The overall area where mappings are built, indicated by a large arrow pointing to the bottom right of the workspace.



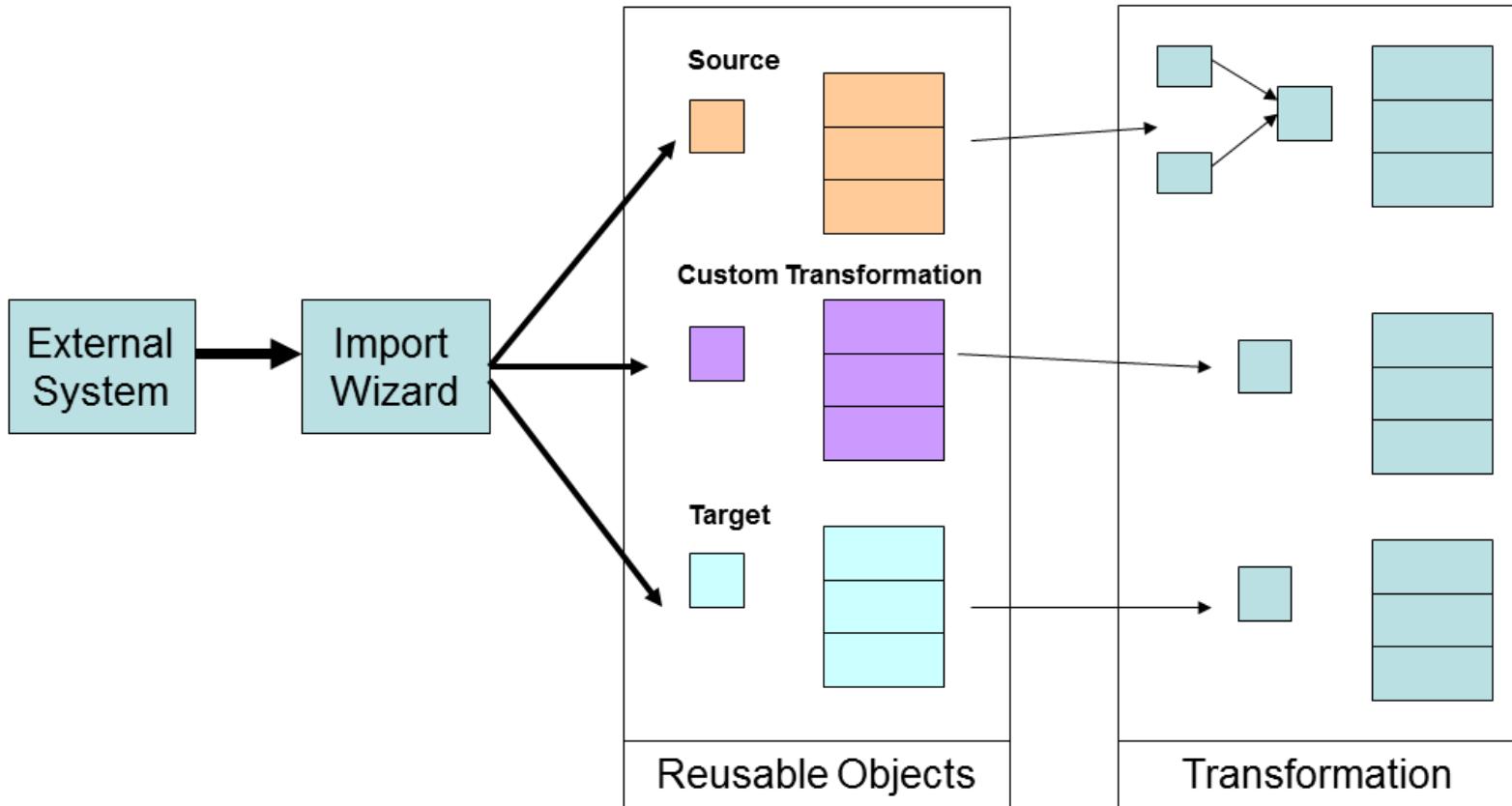
# Workflow Manager



# WorkFlow monitor



# PowerExchange

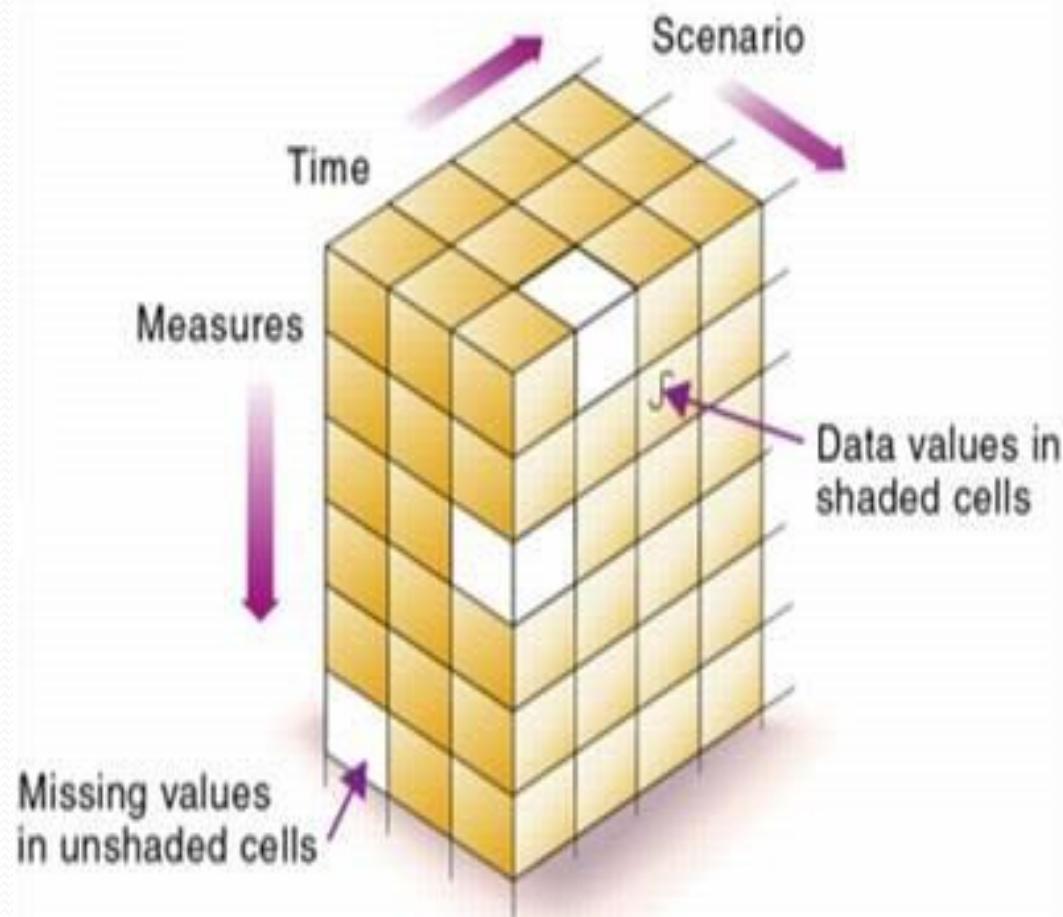


## • **PowerConnect SDK**

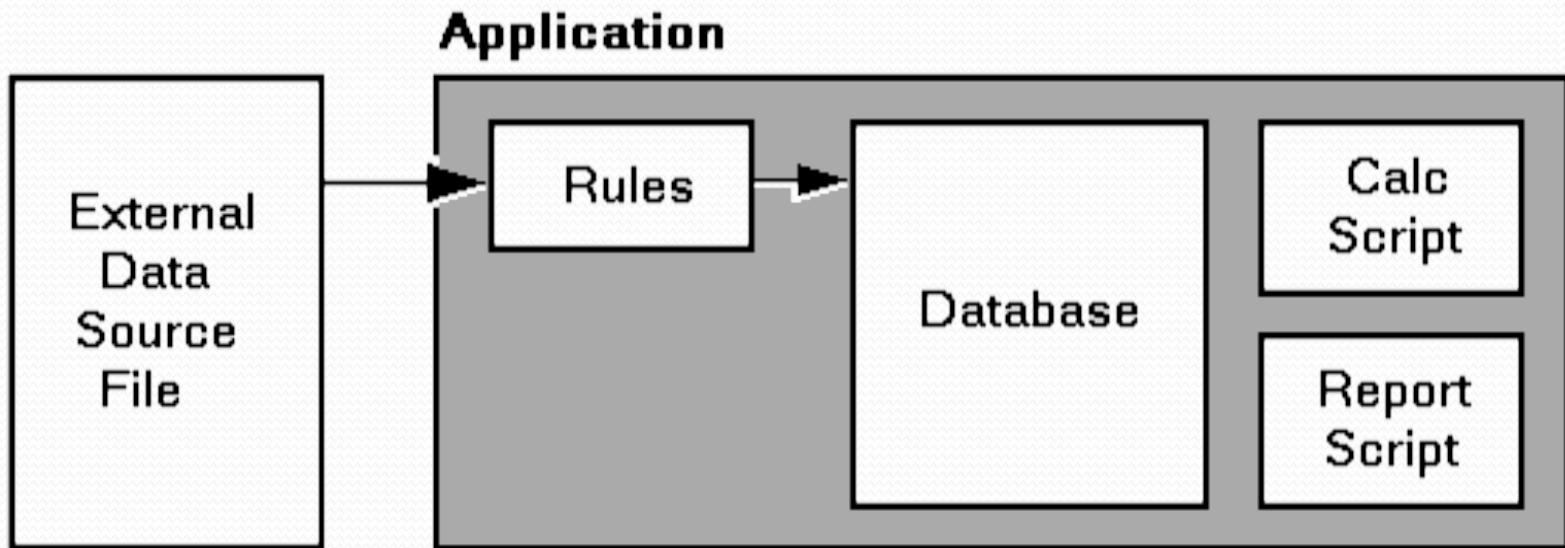
- Client API
  - to create plug-ins for the Designer
  - access metadata
- Server API
  - plug-ins for the PowerCenter Server
  - extract data
- Repository API
  - to access and define the metadata for third-party applications in the PowerCenter repository



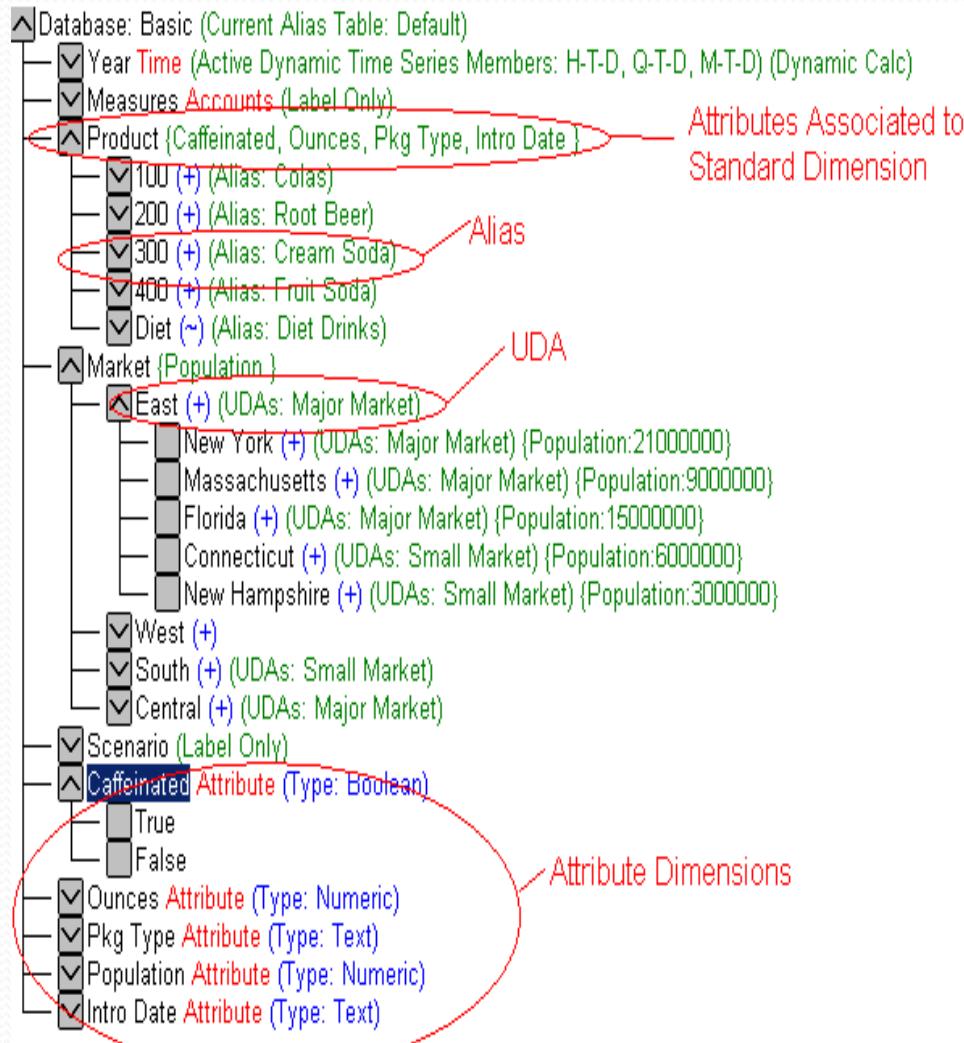
## • Hyperion Essbase



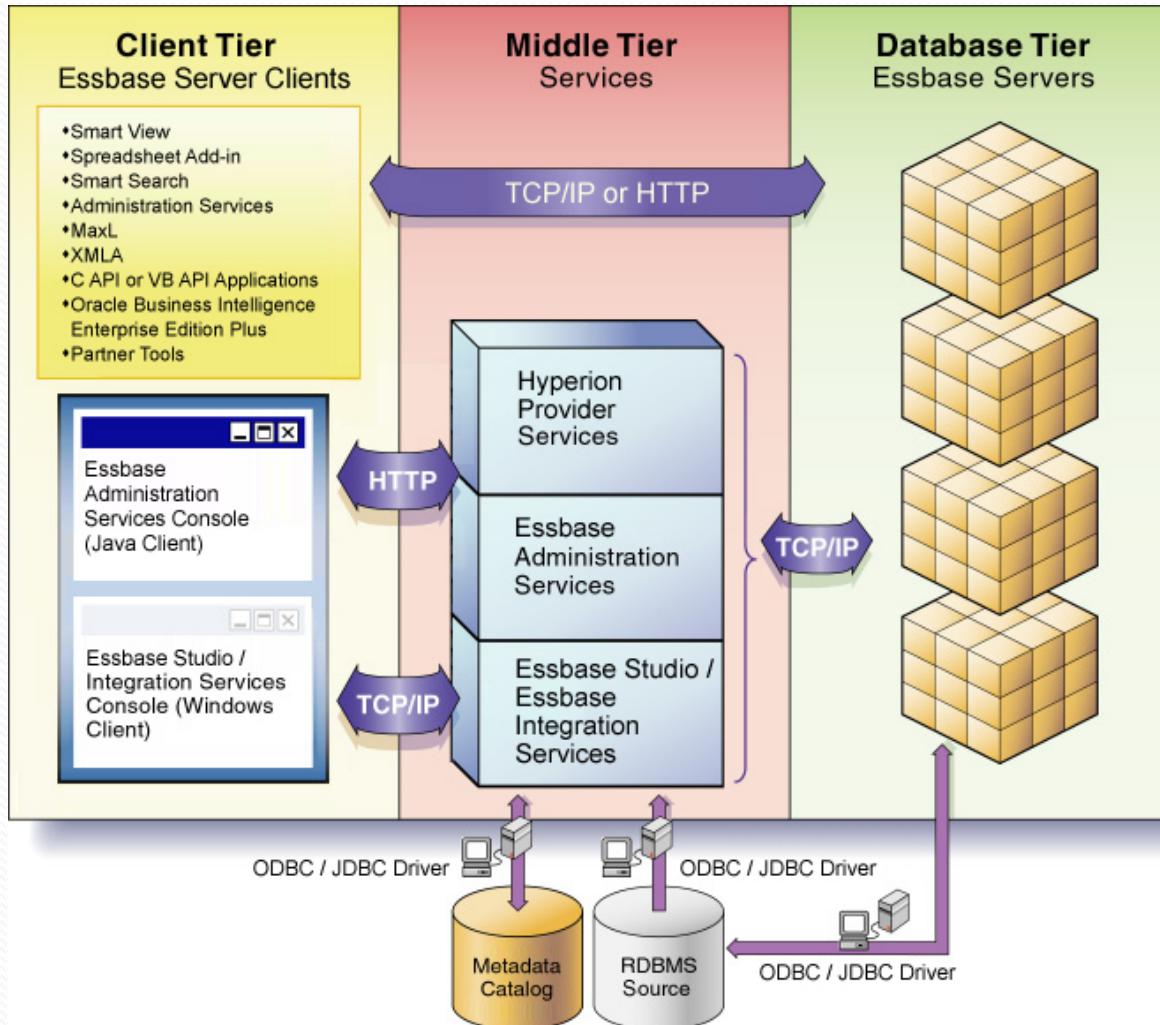
# Essbase Application



# • Understanding Essbase

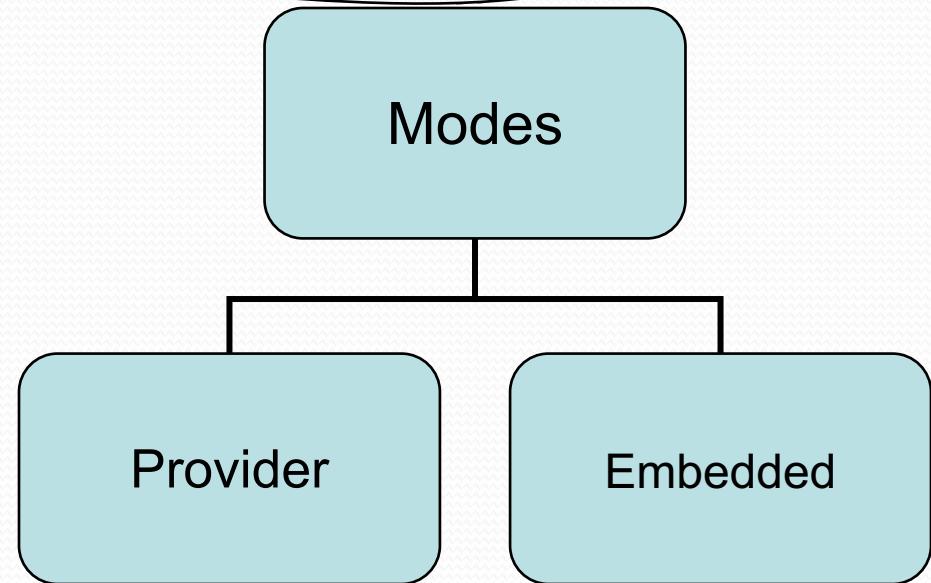


# Essbase architecture



## • **Essbase API**

- C API
- Visual Basic API
- Java API
- XMLA API
- Java API
  - **com.essbase.api.base**
  - **com.essbase.api.dataquery**
  - **com.essbase.api.datasource**
  - **com.essbase.api.domain**
  - **com.essbase.api.metadata**
  - **com.essbase.api.session**



# Programming Environment

- Java Programming Language
- Sun Java J2SE 1.6
- Eclipse IDE
- SWT Framework

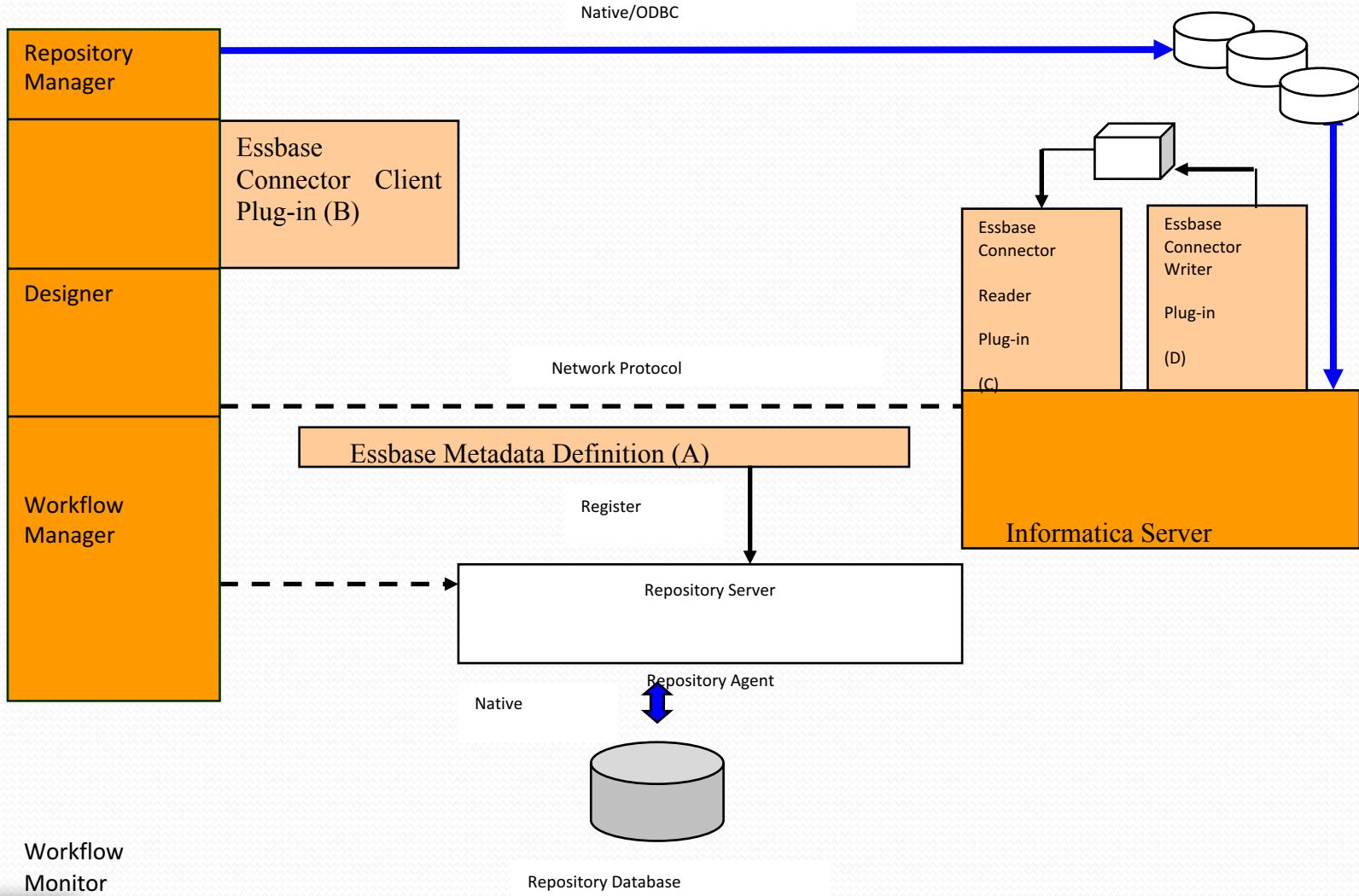


# Project Details

- Prototype for the Java Version of the PowerExchange for Essbase Client and feature comparison with the Visual Basic APIs for Unicode support
- Subproject: Automation of Build Process and understanding make file architecture used in Informatica
- Subproject: Compilation of three of the Informatica Adapters on different platforms for version 8.6.1 recertification

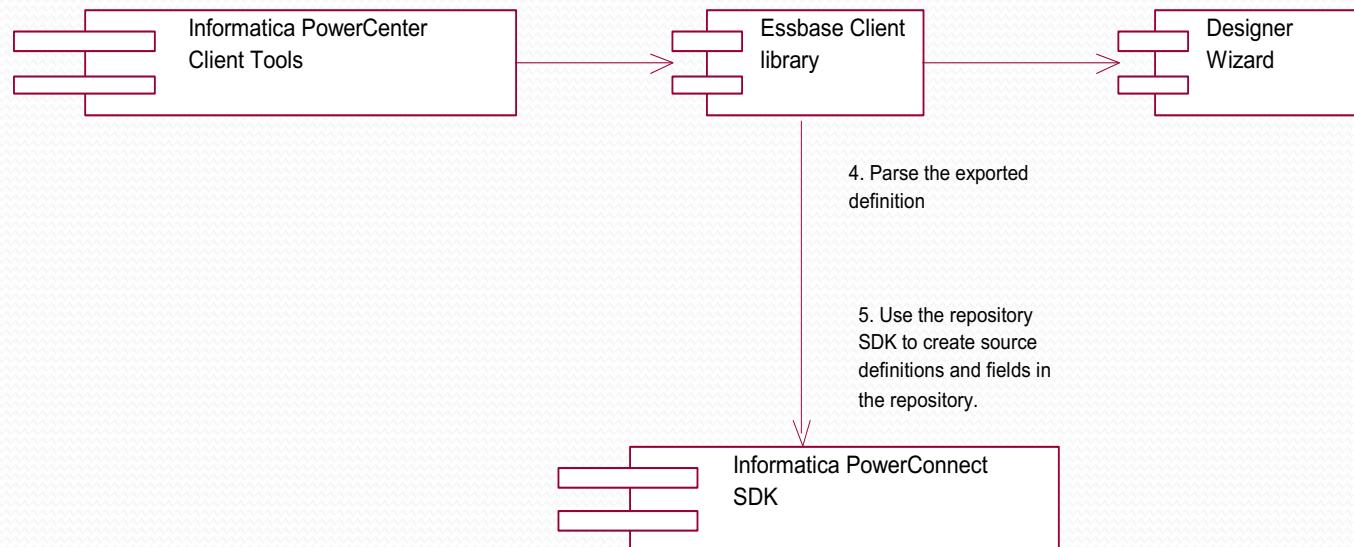


# PowerExchange to essbase



- Essbase Client
  - Client Library
  - Designer Wizard
- Essbase Reader
- Essbase Writer

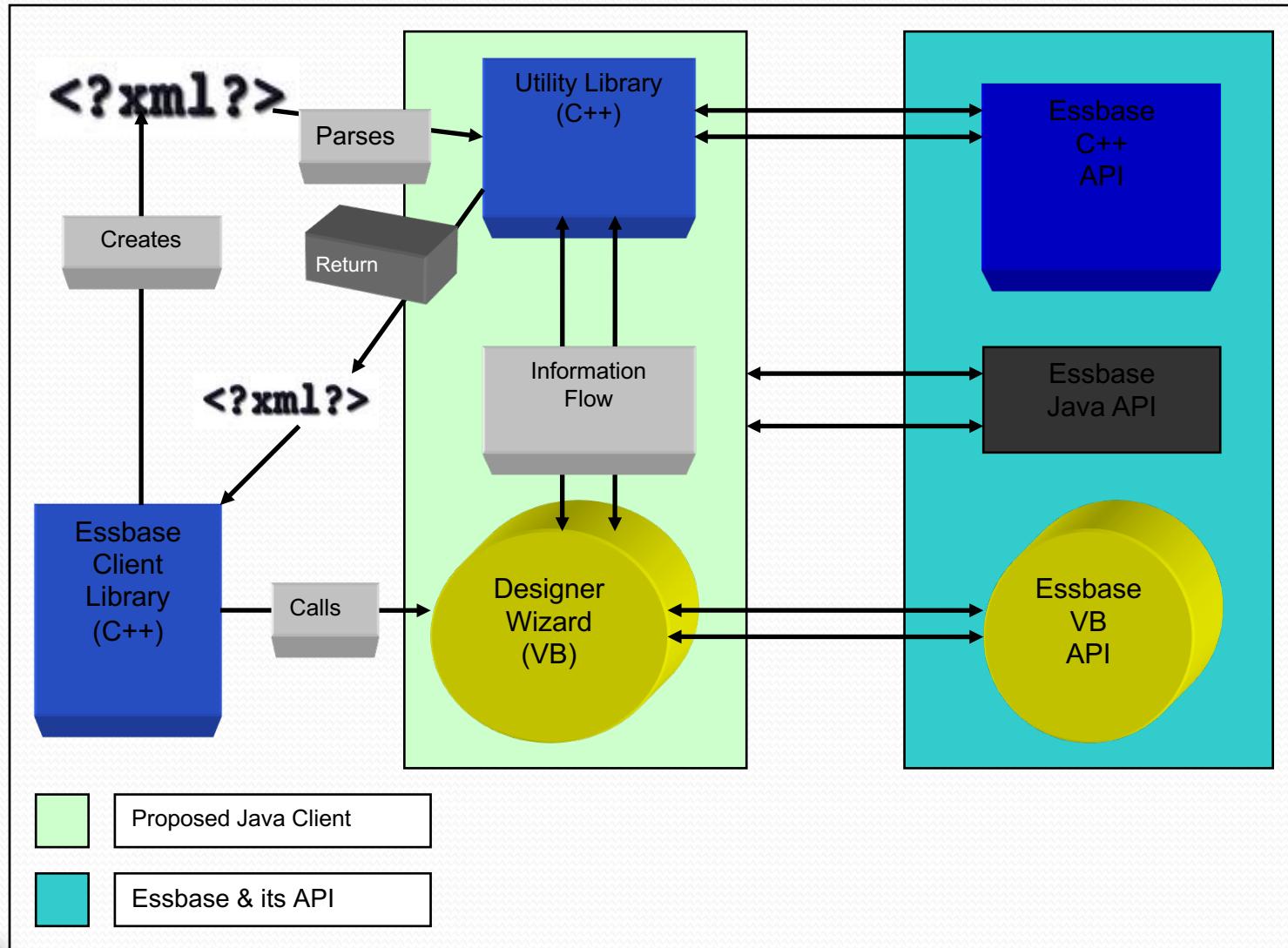
1. Informatica PowerCenter Designer calls -Import Essbase Source/ Target



## PowerExchange to Essbase

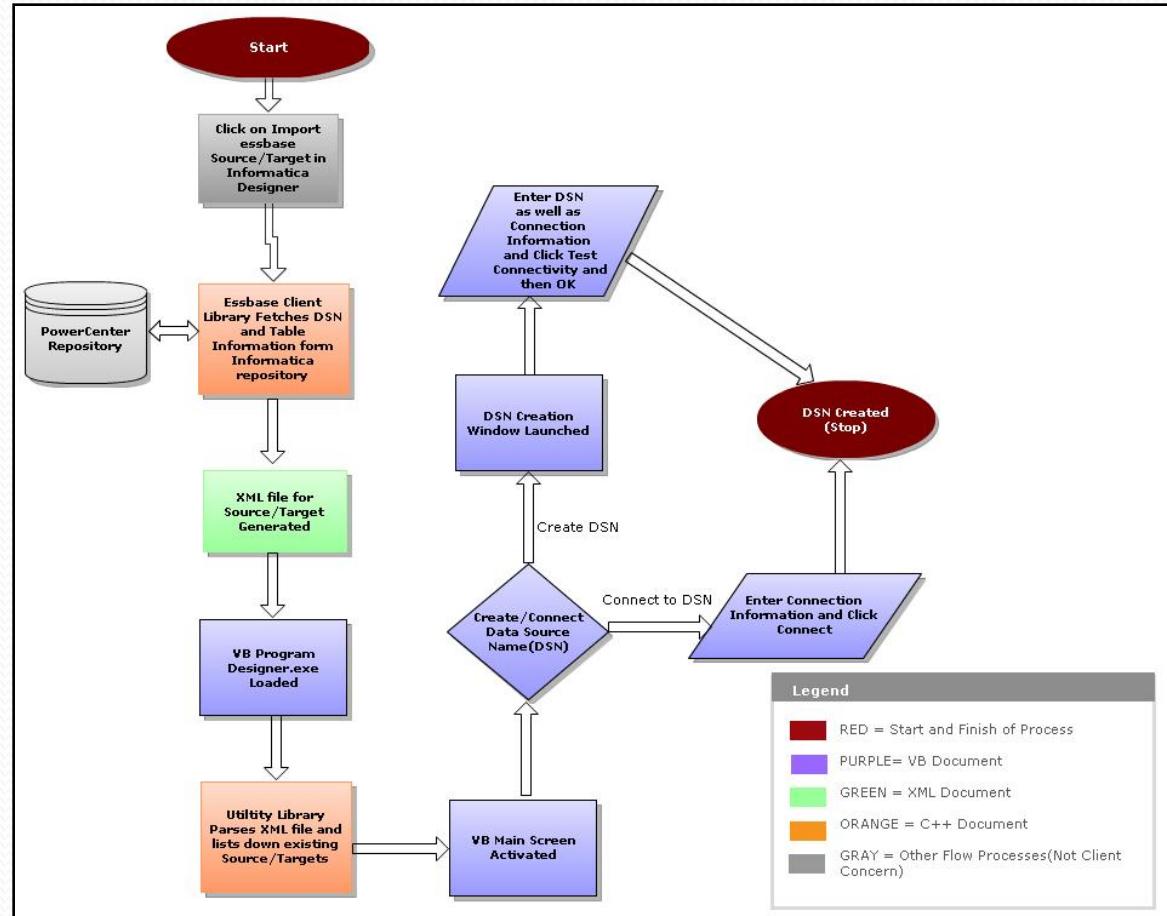


# Project Working

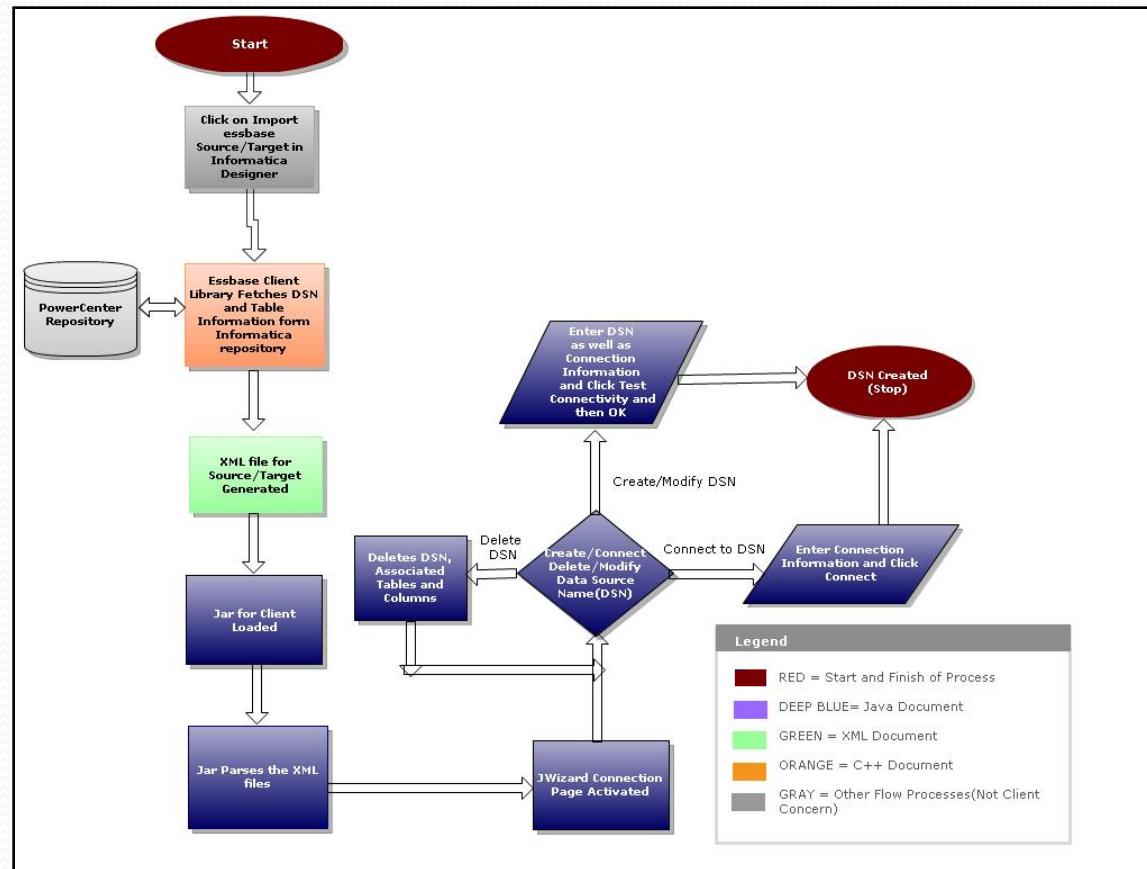


# Design Specifications

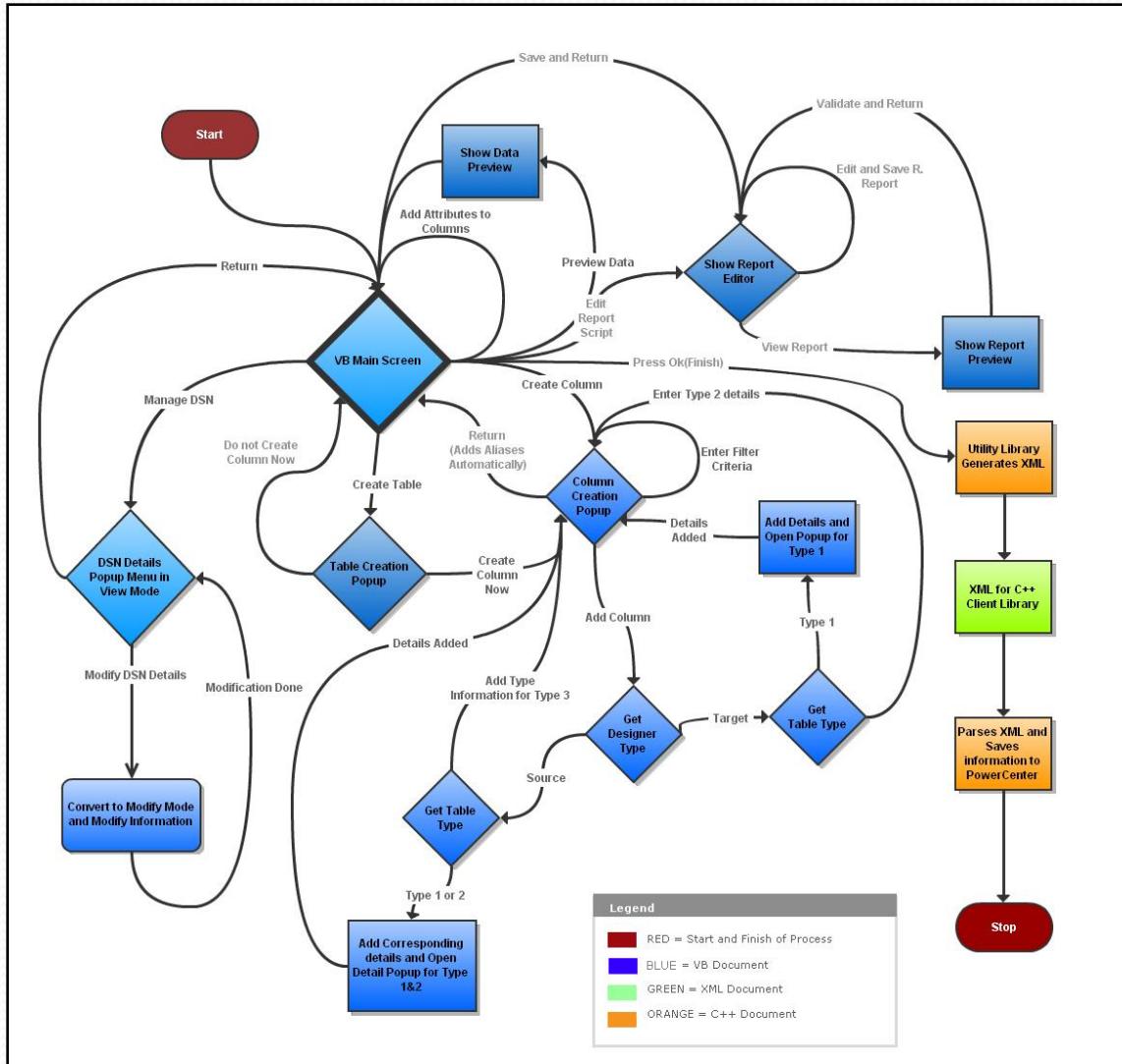
## Old workFlow (1)



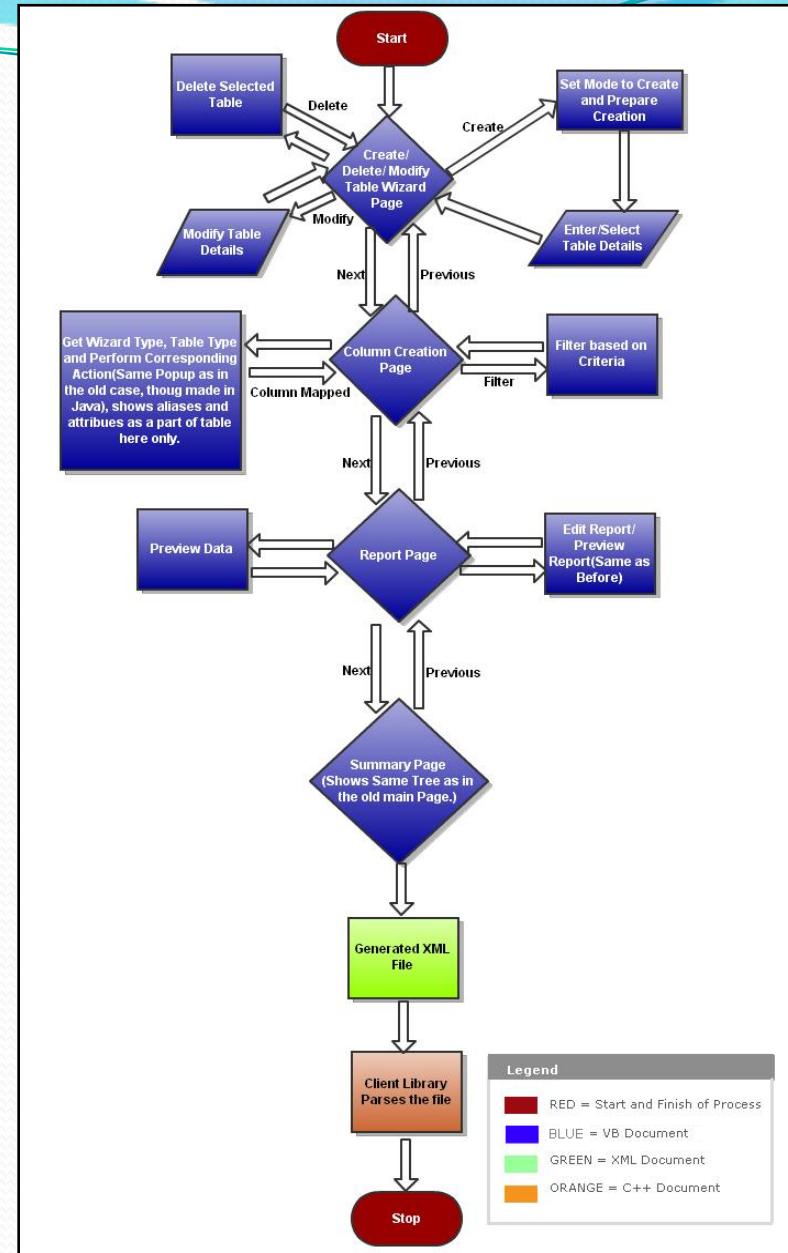
# New workFlow(1)



## Old WorkFlow(2)



## New workFlow(2)



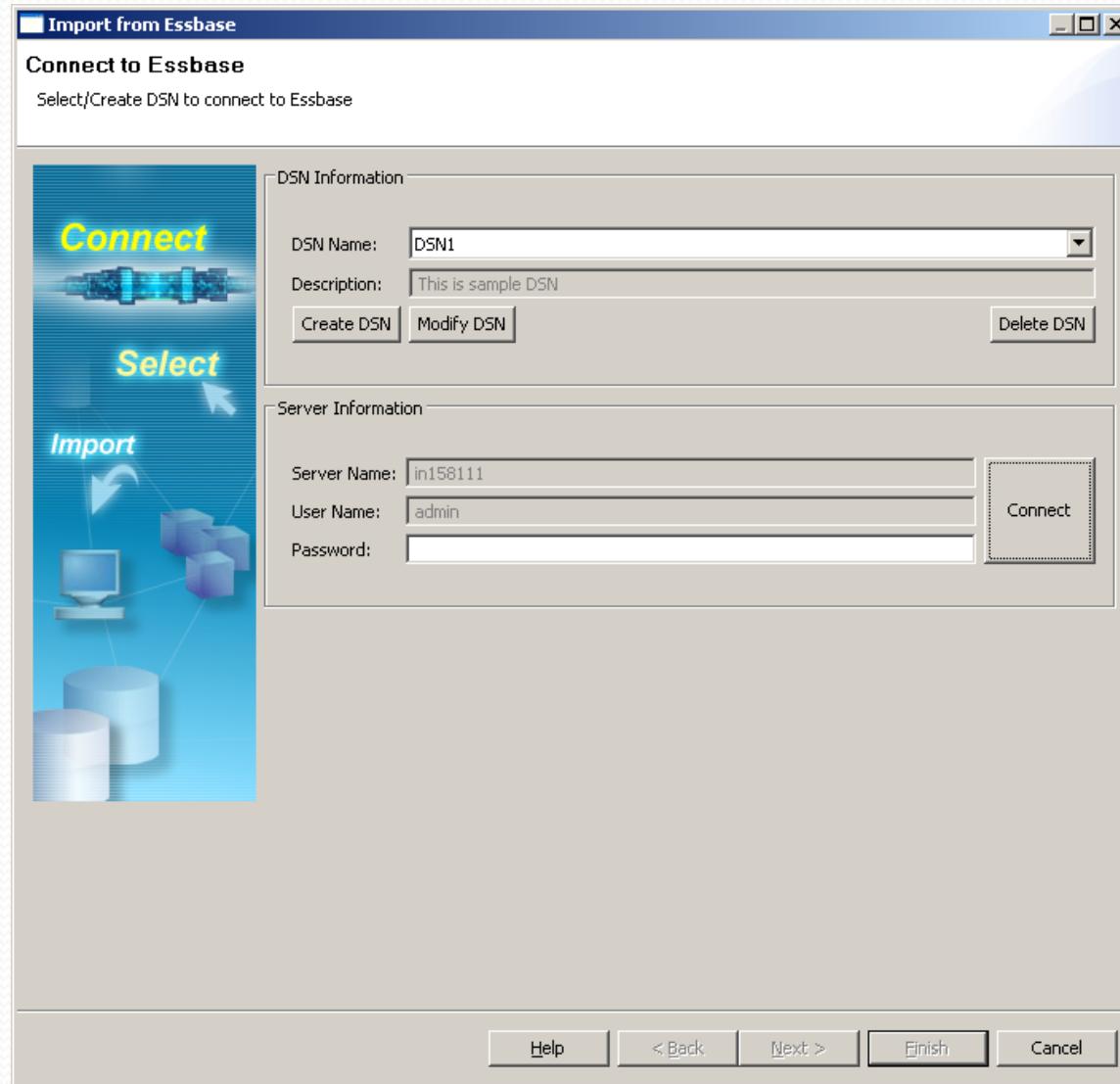
# Project Working

## XML for DSN

```
<?xml version="1.0" encoding="UTF-8" standalone="yes" ?>
- <LIST>
- <DSN Desc="This is sample DSN" Name="DSN1" Pwd=" *-----*" Server="in158111" User="admin">
  --
  --
  --
  --
  --
  Information about the tables goes here
  --
  --
  --
  --
</DSN>
</LIST>
```



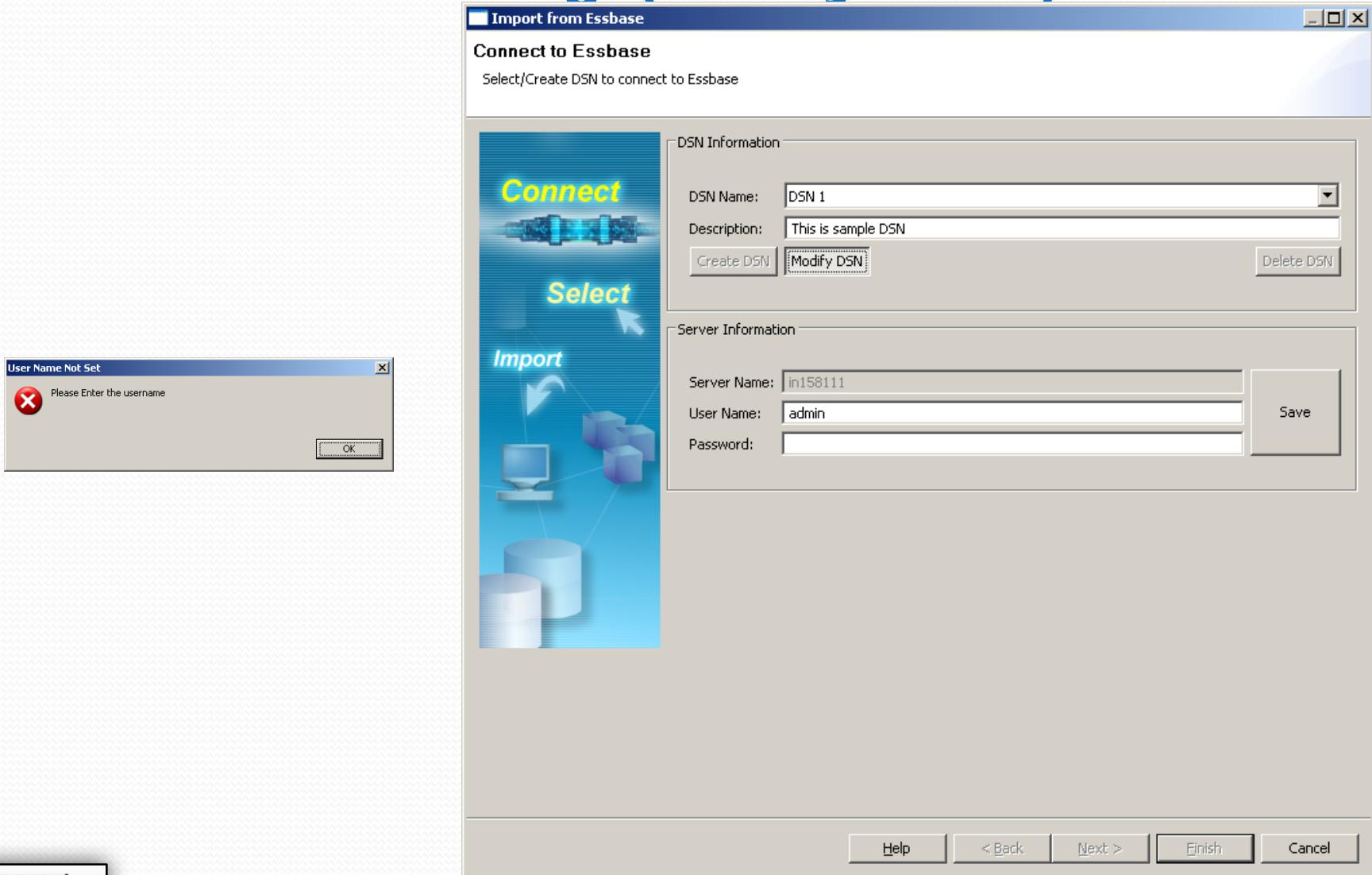
# DSN Page



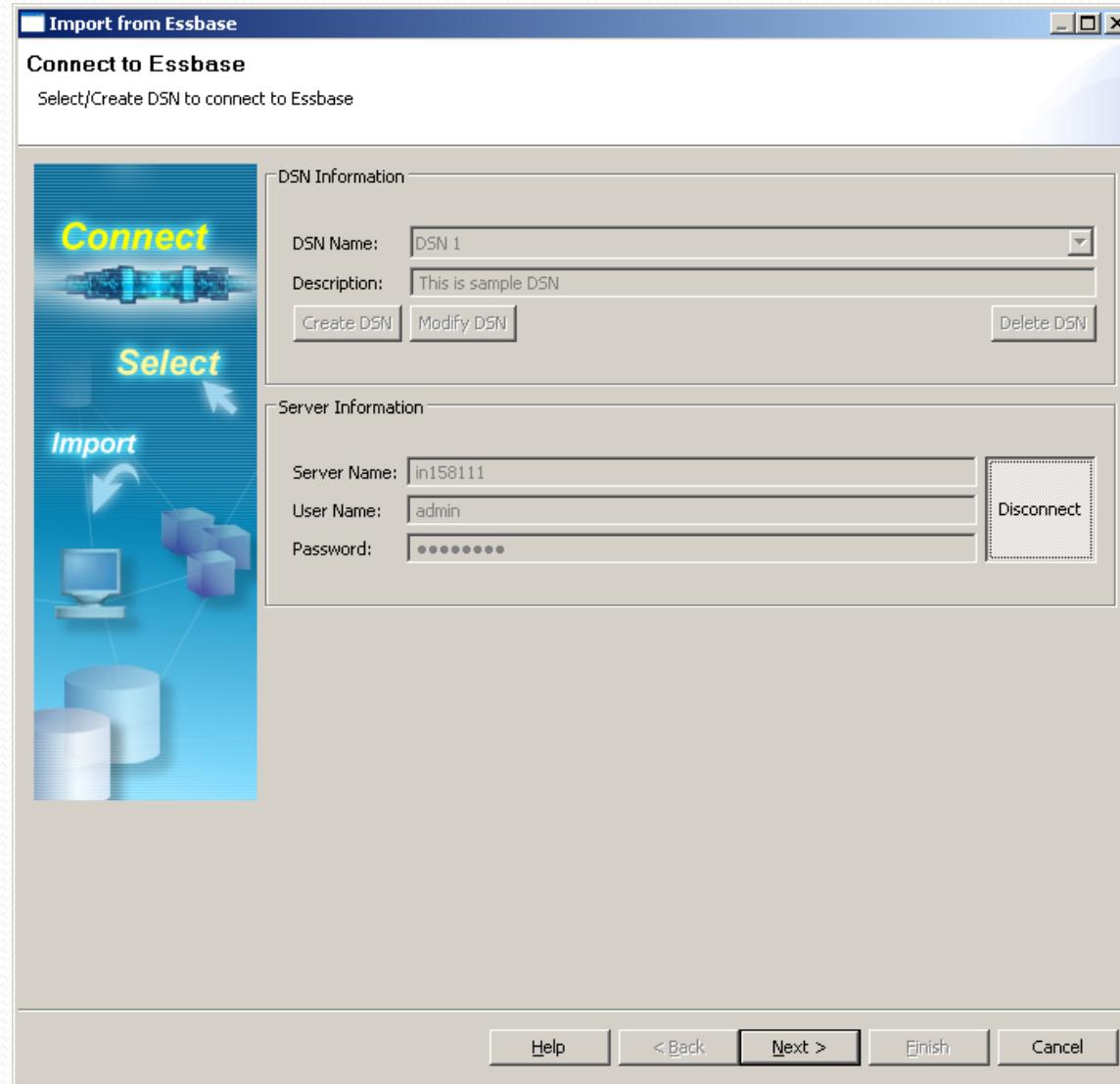
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## • DSN Page(Modify Mode)



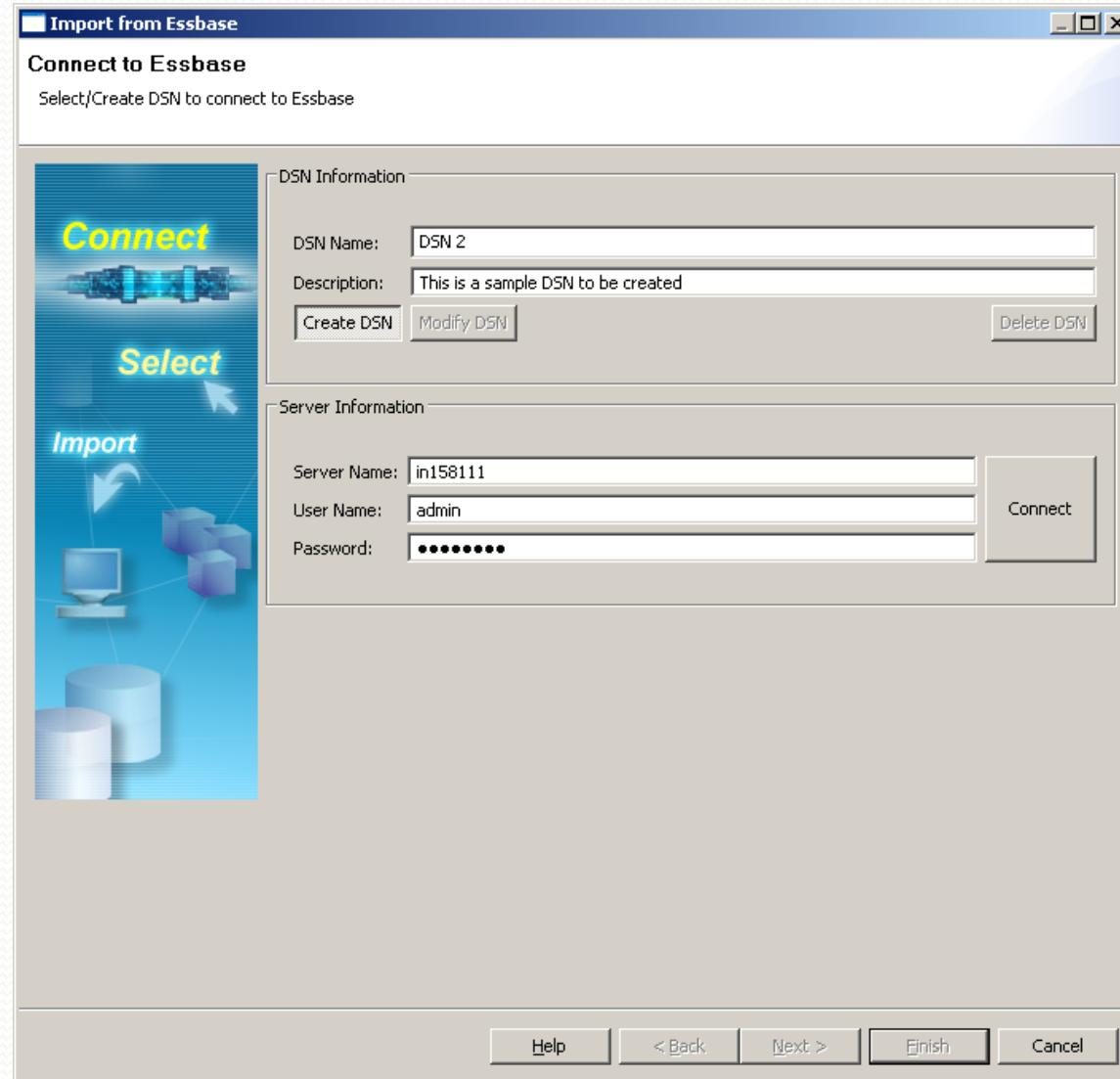
# DSN Page (connected)



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# DSN Page(Create Mode)



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# XML for Table Creation

```
<DSN>
- <TABLE App="Sample" DB="Basic" DBObj="Basic" DBObjType="Block Storage Outline" Desc="This is sample Table 1" Filter=""
  Name="Table 1" ParentDsn="in158111" RuleFile="" RuleSeparator="" Type="1">
  --
  --
  Column Details
  --
  --
</TABLE>
</DSN>
```



# Table Creation Page

**Import from Essbase**

## Create Essbase Table

Create Essbase Table

**Table Information**

DSN Name: DSN 2  
Table Name: Table 1  
Description: This is sample Table 1

**Create New Table** **Modify Table** **Delete Table**

**Database Information**

Application: Sample  
Database: Basic  
Outline: Basic  
Outline Type: Block Storage Option(BSO)  
Table Type: Type 1:Account Dimension Member as a Column  
Type 1:Account Dimension Member as a Column  
Type 2:Account Dimension as a Column  
Type 3:Extract Members

**Create**

Help < Back Next > Finish Cancel



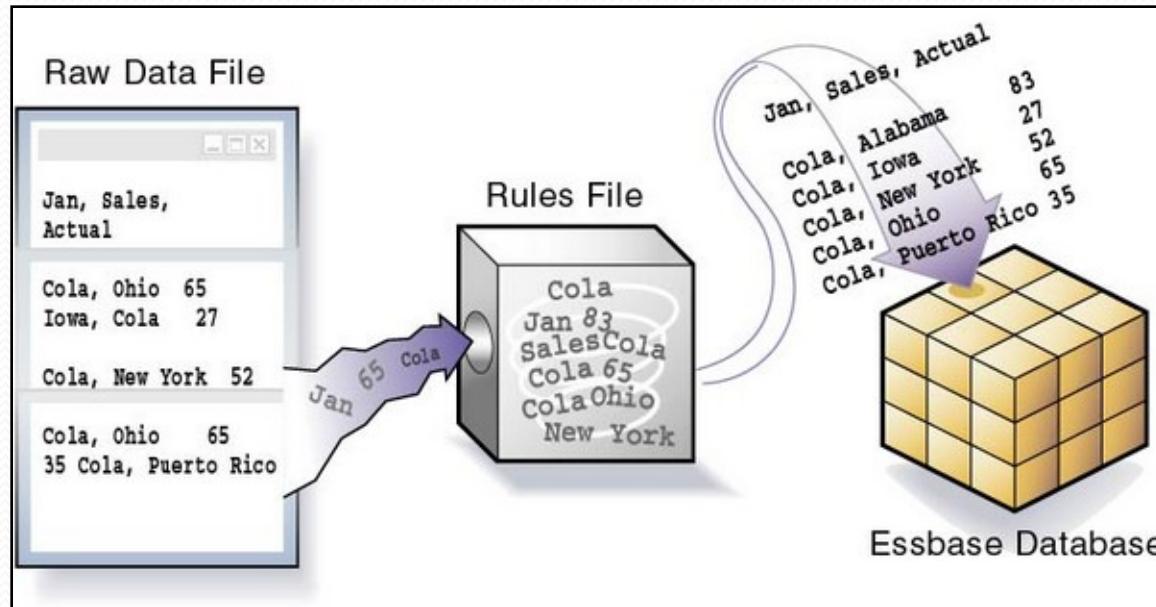
- Table Types
  - Type 1
  - Type 2
  - Type 3

	A	B	C	D	E	F
1	CITY	PRODUCT	MONTH	SALES	COGS	
2	New York	100-10	Jan	271	700	
3	New York	100-10	Feb	258	710	
4	New York	100-10	Mar	270	720	
5	New York	100-10	Apr	284	730	
6	New York	100-10	May	302	740	
7	New York	100-10	Jun	356	750	
8	New York	100-10	Jul	364	760	
9	New York	100-10	Aug	364	770	
10	New York	100-10	Sep	316	780	
11	New York	100-10	Oct	260	790	
12	New York	100-10	Nov	249	800	

	A	B	C	D	E
1	CITY	PRODUCT	ACCOUNT	MONTH	DATA
2	New York	100-10	Sales	Jan	700
3	New York	100-10	Sales	Feb	710
4	New York	100-10	Sales	Mar	720
5	New York	100-10	Sales	Apr	730
6	New York	100-10	COGS	May	740
7	New York	100-10	COGS	Jun	750
8	New York	100-10	COGS	Jul	760
9	New York	100-10	COGS	Aug	770
10	New York	100-10	COGS	Sep	780
11	New York	100-10	COGS	Oct	790
12	New York	100-10	COGS	Nov	800



# Essbase Rule Files



## XML for Column

```
<TABLE>
<COLUMN AssociatedDimen="Product" ColumnType="1" DTS="" Datatype="Text" DimenName="Product" Filter=<SORTNONE
<ICHILDREN "Product"> Name="Product" ParentTable="Table 1" Precision="80" Scale="0" UDA="" />
</TABLE>
```



# Column Mapping Page

**Import from Essbase**

**Dimension - Column Mapping**

Map Dimension to Column

**Table Information**

Table Name: Table1 Table Type: Type 1:Account Dimension Member as a Column

**Set Outline Filter**

Enable Filter

**Dimension**

Dimension

Filter Expression For Dimensions

Show All

**Account Dimension**

Account Dimension

Filter Expression For Account Dimension

Level:

Ok Cancel

**Dimension**

Dimension	Type
+ Inventory	None
+ Ratios	None
- Product	None
ProductAlias	Alias
100	None
200	None
300	None
400	None
Diet	None

**Column Mapped**

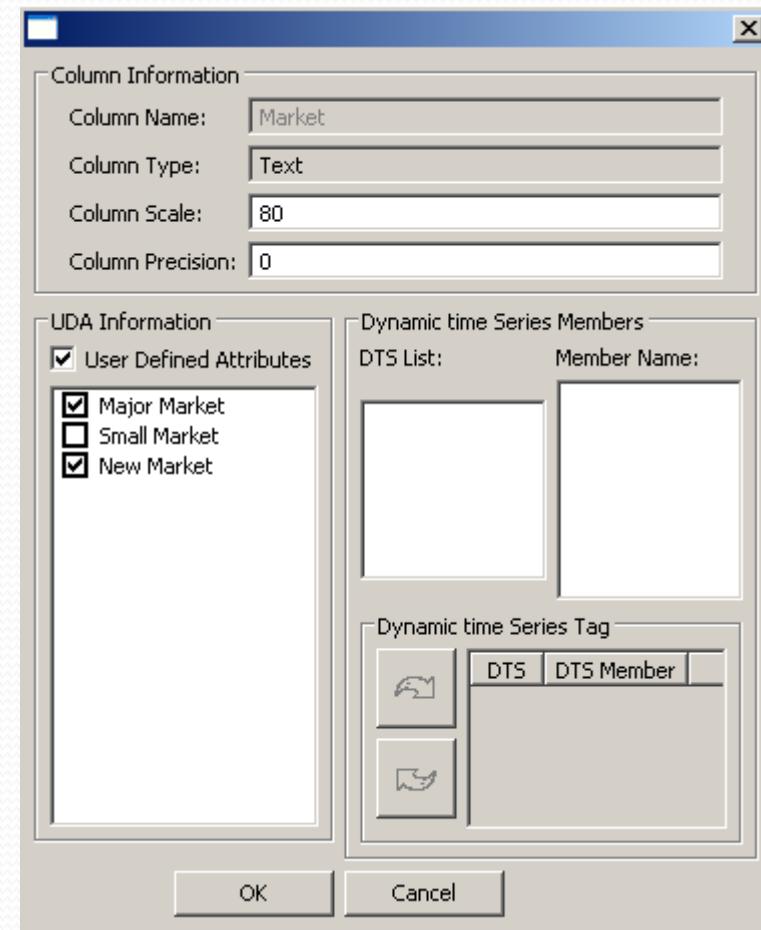
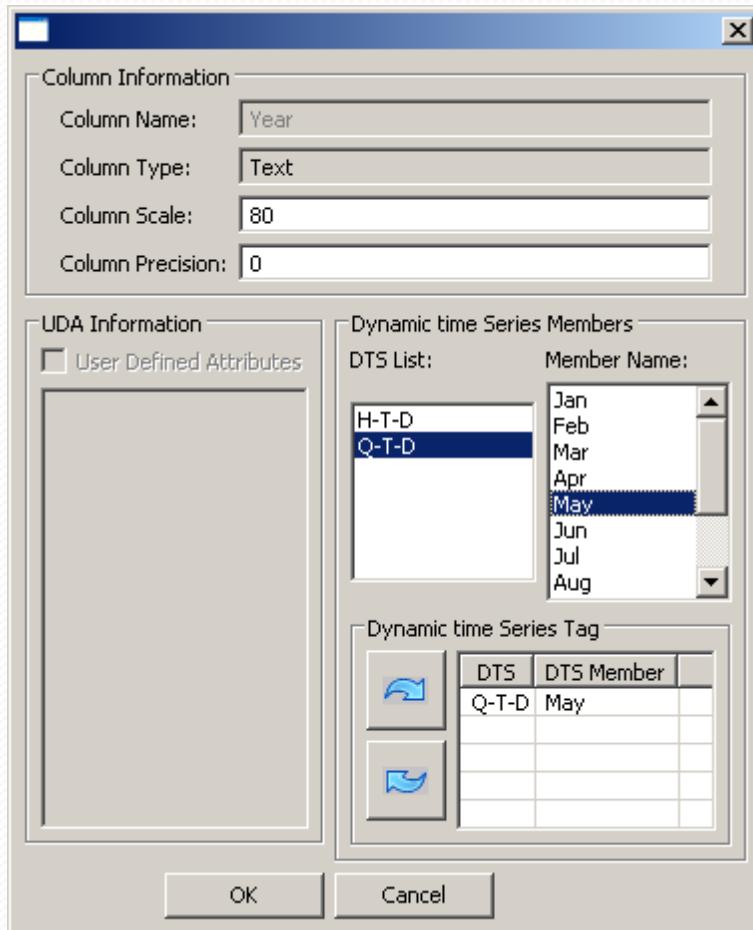
Dimension	Column Name	Data Type	Scale	Precision
Year	Year	Text	0	80
Product	Product	Text	0	80
Caffeina...	Caffeinated	Boolean	0	1
Measures	Profit	Numeric	0	15
Intro Date	Intro Date	Date	0	10
Population	Population	Numeric	0	15
Pkg Type	Pkg Type	Text	0	80
ProductA	ProductAlias	Text	0	80

Help < Back Next > Finish Cancel

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# Column Popup(with DTS and UDA)



# Essbase Report Page

**Import from Essbase**

## Report Script Page

View/Modify Essbase Report Script

**Table Information**

Table Name:   
Table Type:

**Member Selection**

Get Data For DTS Members Only

Column Name	Dimension Name

**Data Filter**

Data Range Command:   
Command Parameters:

**Member Sort Order**      **Member Sort Option**

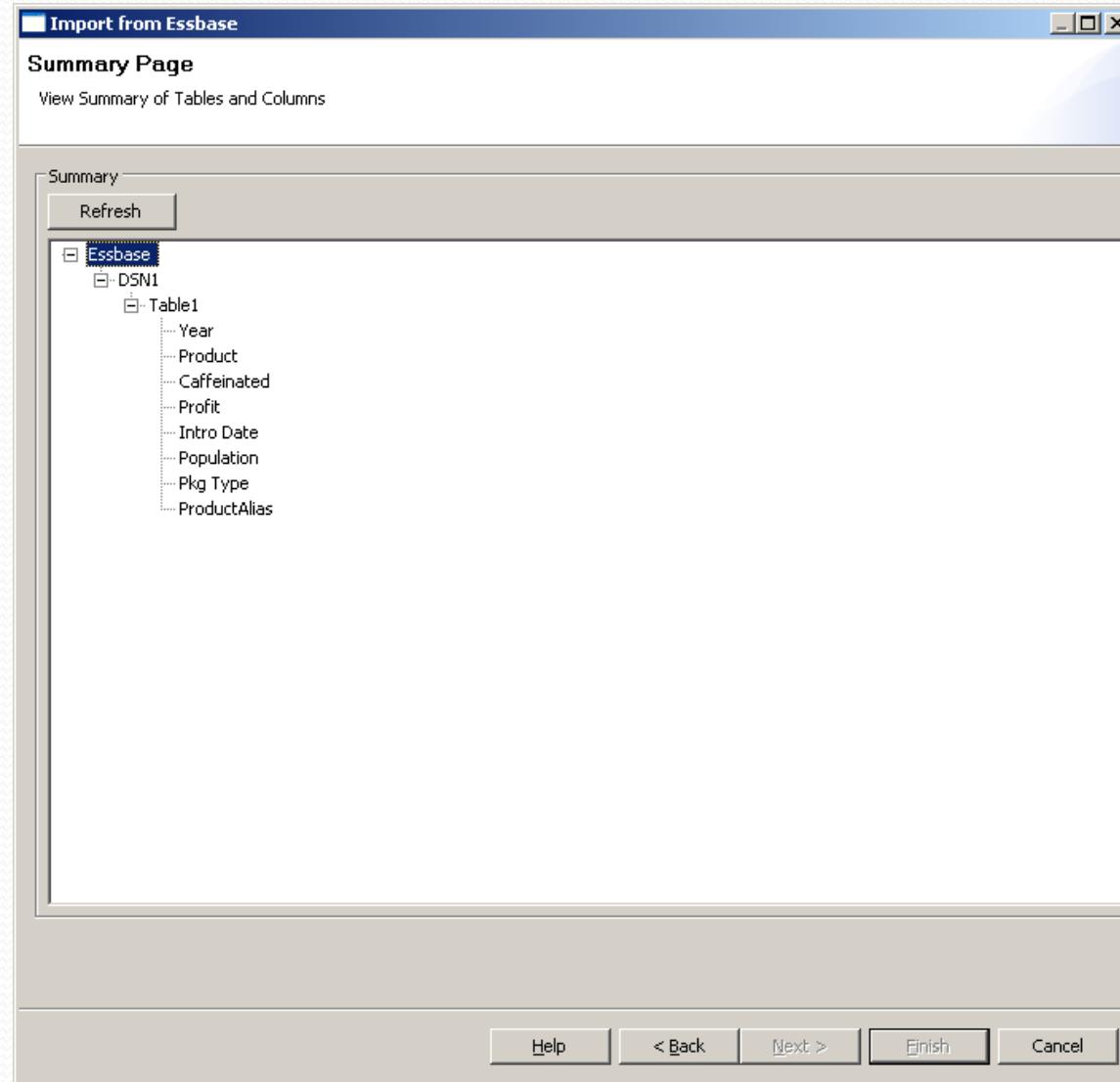
**Member Selection Command**      **Command Parameters**

**Report Script** | **Preview**

**Help** | **< Back** | **Next >** | **Finish** | **Cancel**

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# Essbase Summary Page



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# Automation of Build Process and understanding make file architecture used in Informatica

Message# {"Message to be a part of standard printf C++ function"}

#define

MSG\_NAME

Message#



```
<?xml version="1.0" ?>
<group name="ebiz_msg.msg" prefix="EB_">
  <!-- WARNING! Do not change parameters order during translation! This message is going to be used in C++ code.
  ->
  <error code="40001" key="ERR_CONNECTION_FAILED" text="The Integration Service could not connect to Oracle E-Business Suite." />
```

**sed /s <Source String> /<Target String> /g <Source File>  
><Target File>**



# **Compilation of three of the Informatica Adapters on different platforms for version 8.6.1 recertification**

AIX	:XLC
HP-UNIX	:ACC
Windows 64-bit	:ICL



# Results, Conclusions and Future Scope of Work

- The prototype does not fully implement the functionality and is just for demonstration purposes.
- Actual implementation will require rigorous exception handling and error checking as well as proper logging into various logging levels.
- Only Type 1 sources are currently running, others need to be supported.
- The filter conditions are currently not functional.
- Rigorous testing is still to be done to use the experience with the old adapter into the new one.
- New features that are suggested by the clients can be incorporated



# Thank You

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