Training Guide

Web Intelligence Advanced Queries



UNIVERSITY OF ILLINOIS SYSTEM

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Web Intelligence Advanced Queries

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About this Course

Objective

The objective of this course is to teach how to use a variety of advanced querying techniques and features including: Combining data from multiple universes using Merged Dimensions, using Excel as a data source, filtering based on results from another query, and using wildcards in query filters.

Prerequisites

In order to complete this course, you should have a good understanding of Web Intelligence Reporting Basics, including creating a query, building query filters, and basic report formatting.

Instructor Led Course

This course is presented in a computer lab with an instructor. The instructor presents the information by completing the examples in each chapter on the screen. The students in the class follow by doing the same steps as the instructor.

Training Data

This course is not designed to teach about the Data, rather the Web Intelligence Reporting software used to create reports. We will use the **Training – Operating Ledger** and the **Training – CFOAP** universes for all the examples. These universes were created for training purposes only and contain fictitious financial data. Also note that these universes are not organized the same as actual finance universes.

Training Accounts

To access the training data, we will login using training accounts. These accounts are used in training, and can be used outside of training to practice our training exercises. The account user names are **adhoc1** through **adhoc19**, and the all have the same password: **DStra1n1ng**

Chapter 1: Merge Dimensions

The process of linking data from different data providers based on a common object is referred to as Merging Dimensions. This process is broken down into several steps: creating the queries, merging dimensions, creating variables, and adding the variables to the report table.

Examples of Merged Dimensions

Our training example is a fictitious example of using Merged Dimensions. Below are some common uses for Merged Dimensions we see often at the university:

Finance Data Examples

- Reporting on operating ledger data with purchase orders.
 Sources: EDW Finance Purch Order Invoices with Operating Ledger Reporting
- Reporting on operating ledger data with TEM data.
 Sources: EDW Finance Travel & Expense with EDW Finance Posted Transactions

Student Data Examples

- Reporting on all currently registered students with their completed courses and grades.
 Sources: currently registered students are found in EDW STU Registration Limited (or complete) and completed courses and grades are found in EDW STU Academic Records.
- Reporting on all currently registered students with their most recent Term GPA.
 Sources: currently registered students are found in EDW STU Registration Limited (or complete) and Term GPA is found in EDW STU Academic Records.
- Reporting on applicants that have enrolled to a specific program.
 Sources: applicants are found in the EDW Current Applicant universe and enrolled students are found in EDW STU Registration Limited (or complete)

HR Data Examples

Reporting on job CFOAP information combined with years of service.
 Sources: Job CFOAP information is found in EDW – HR – Position and Job Hierarchy and years of service is found in the EDW – HR – Employee Administration.

Open the Initial Document

We'll start with an existing document created out of the **Training – Operating Ledger** universe. This document has a single query.

- 1. Open Web Intelligence Rich Client.
- 2. Login with your assigned training account.



3. Under Open a Document, click **<u>Browse</u>** link.

| Open Document Open a recent document or browse for one on y | rour computer. | | |
|--|----------------|-------|------------------|
| Recent Documents | | | |
| Name | Size | | Date |
| Today | | | |
| Webi_Adv_Queries_Lesson1 | | 72 KB | 3/17/17 2:26 PM |
| Webi_Adv_Queries_Lesson1 | | 72 KB | 3/17/17 2:24 PM |
| Yesterday | | | |
| 🚽 Class Roster | | 49 KB | 3/16/17 11:29 AM |
| Tuesday | | | |
| JGCM class enroll | | 62 KB | 3/14/17 2:25 PM |

4. Open the document **Webi_Adv_Queries_Lesson1** document.

| Training Transactions | | | | | | | | |
|-----------------------|--------------------|-------------------------------------|-------------|--------------|----------------------|-----------------|-------------------|--|
| Transaction Date | Document Number | Transaction Description | CoA Code | Fund Code | Organization Code | Program Code | Expense Amount | |
| 7/1/14 | AR034267 | Fox-Atkins Development LLC | 9 | 100014 | 699001 | 699006 | \$0.00 | |
| 7/1/14 | AR034463 | ER00656997 Fox-Atkins Development L | 9 | 200201 | 699001 | 699006 | (\$210.00) | |
| 7/1/14 | AR034797 | HR Payroll 2014 MN 7 1 | 9 | 100014 | 699001 | 699006 | \$0.00 | |
| 7/1/14 | AR034797 | HR Payroll 2014 MN 7 1 | 9 | 100015 | 699001 | 699006 | \$0.00 | |
| 7/1/14 | AR034797 | HR Payroll 2014 MN 7 2 | 9 | 100015 | 699001 | 699006 | \$0.00 | |
| 7/1/14 | AR034797 | HR Payroll 2014 MN 7 2 | 9 | 301006 | 699001 | 699012 | \$0.00 | |
| 7/1/14 | AR034797 | HR Payroll 2014 MN 7 5 | 9 | 100014 | 699001 | 699006 | \$0.00 | |
| 7/1/14 | AR034797 | HR Payroll 2014 MN 7 6 | 9 | 301006 | 699001 | 699012 | \$0.00 | |
| 7/1/14 | AR035234 | Reverse deferal of PR007189 | a | 100014 | 699001 | 699002 | \$6 1// 98 | |

Add Second Query

The **Training** - **Operating Ledger** universe contains only codes for the Fund, Org, Account, and Program information. In order to add the descriptions for these codes, we will add a query from the **Training** – **CFOAP** universe. (*Note this is a training example only. In our real Operating Ledger Universe, you would find both the codes and their descriptions.*)

When building your second query, always include at least one result object that is also found in your first query. You will need a common dimension object to join the data together in your reports. Often this will be a UIN, or a Transaction Number. In our example, we will join our data together with the Fund Code, CoA Code, and Organization Code objects.

1. Click the Edit Query button.



2. Click Add Query > From Universe



- 3. Select the **Training CFOAP** universe.
- 4. Expand the CFOAP folder.

- 5. Add the following **Result Objects** to your query:
 - CoA Cd
 - CoA Title
 - Fund Cd
 - Fund Title
 - Organization Cd
 - Organization Title
 - Program Cd
 - Program Title
- 6. Add the following Query Filters:
 - CoA Code Equal to 9
 - Organization Cd Equal to 699001

| 🗊 Query Panel | | 3 × |
|--|--|---------------------------|
| 🔂 Add Query 🔹 🖬 🖬 | 🤣 🖅 🗅 | Run Queries 🔻 🛛 🔂 Close 🔻 |
| 🔆 Universe outline | TResult Objects | <u>▼ × ¾</u> |
| Training - CFOAP | Fund Title Program Cd Organization Title CoA Title CoA Cd Program Title | Fund Cd Organization Cd |
| Account Cd Account Title Program Cd Program Title | Y Query Filters And I Organization Cd Equal to T Organization Cd | 第 🏹 🤻 🛱 |

- 7. Click the Run Queries button.
- When prompted to choose how to include the data form the new query, select Insert a table in a new report (default), then click Ok.



You will now have two reports. Report 2 will contain all of the codes and their descriptions.

Merge Dimensions – Joining Data from Two Sources

Merge Dimensions allows you to join the two data sources based on a common Dimension object. It is important to join the data sources together with an object they have in common, such as UIN. Note that the objects do not need to have the same name, but the data must be the same.

The available objects list now contains all of the objects from both of our queries. But if you attempt to add one of the objects from Query 2 to Report 1, you will see a message, **"Cannot drop here – the object is incompatible."**

| Fund Code | Organization | Program Cod | Expense Amo |
|-----------|----------------------------|------------------------------|--------------------|
| 100014 | 699001 | 699006 | 0 |
| 200201 🛇 | 699001 Cannot drop here | 699006 - the object is in | -210 compatible |
| 100014 | 699001 | 699006 | 0 |
| 100015 | 699001 | 699006 | 0 |

In Web Intelligence, <u>you can only display the objects from a single data source in a report block</u>. Since the table in report 1 was generated from Query 1, it can only display data from Query 1. In order to display the data from both queries in a single report table, we must join the data using the **Merge Dimension** feature. Think of the Merged Dimension as the bridge that connects your data providers.

- 1. Select the Training Transactions report. In the bottom left corner of the report window, click on the **Arranged by: Alphabetical Order** option.
- 2. Select Arranged by: Query.



- 3. Select the **CoA Code** object from Query 1.
- 4. Hold down the **CTRL** key on your keyboard.
- 5. Select the **CoA Cd** object from Query 2.
- 6. Right click on this object.
- 7. Select Merge from the right-click menu.



The Merged Dimensions folder is added, and the CoA Code merged dimension is added to the folder:



- 8. Right-click on the new CoA Code Merged Dimension.
- 9. Select Edit Properties



10. Change the Merged Dimension Name to Merged CoA Code

| Edit merged dimension (2) | × |
|--|---|
| Select a source dimension to provide default properties for the merged dimension: | |
| Source Dimension | |
| CoA Code (Query 1) | |
| Merged Dimension Name | |
| Merged CoA Code | |
| Description | |
| Contains Chart of Accounts Codes used on transactions. There is a unique code for each University of Illinois cam pus as well as University Administration. Example valid v alues are 1, 2, 4, 7 & 9. | |
| Data type: String | |
| Number Format: | |
| OK Cancel | |

Note: Renaming the Merged Dimension is optional, but often helps lessen confusion later in the process of joining the data.

11. Repeat steps 3-10 to merge the Fund Code objects and the Program Code objects.



Creating Variables

The Merged Dimensions we added create a bridge that connects the two data sources. We can now use those Merged Dimension objects to create variables that can be added to the report table. We build the variable as a Detail object and associate it with the Merged Dimension, which will allow us to put it in the Report 1 table.

Add the Fund Title to the Report 1 table:

- 1. Right-click on the Variables folder.
- 2. Select New Variable.



- 3. Enter a unique name for your variable. The name cannot be the same as the object name in any of your queries. For our example, enter **Fund Description**
- 4. For the Qualification, select **Detail** from the drop-down list.

| Variable Defin | ition |
|----------------|------------------|
| Name: | Fund Description |
| Qualification: | Dimension 🔻 |
| | Dimension |
| Туре: | Measure |
| | 🐅 Detail |
| Formula | |

- 5. On the **Associated Dimension** row, click the button.
- 6. Select the 🖊 Merged Fund Code Merged dimension.



- 7. Click Ok.
- 8. Click in the **Formula** box.
- 9. Scroll in the Available Objects list to Query 2.
- 10. Double-click the Fund Title object (Query 2).



- 11. The Formula will now read: =[Fund Title]
- 12. Click **OK** to exit the Create Variable window.
- 13. Repeat steps 1-12 to create a variable for the Program Description.

| Name: | Program De | escription | | | |
|--|---|--|--|--|--------|
| Qualification: | 🍂 Detail | | | | Ŧ |
| Associated dimension: | Merged Pro | gram Code | | | |
| Туре: | unknown | | | | |
| ormula | | | | | |
| -p rogram naoj | | | | | 2 |
| Available objects | | Functions | Operators | ······································ | 1 |
| Fund Cd Fund Title Organizat Program 0 Program 1 | tion Cd tion Title Cd Title nsions oA Code | Aggregate All Character Data Provider Data & Time Date & Time Logical Misc. | = < <= ↔ + - / * Values Prompts : After All And | >= > ; (| ·) |
| escription | | | | | |
| The title associated with | the Program | n Code. | | | |

Program Description Variable

Adding the Variables to the Report Table

Now that we have created variables associated with the Fund Title and Program Title, we can now add these variables to the Query 1 table.

- 1. From the Variables folder, click on the **Fund Description** variable.
- 2. Drag into the Report 1 table.
- 3. Drop to the right of the **Fund Code** column.

| Document Number Fund Code Organization Code | | Ţ | raining Transactions | | | | |
|---|---------------------|--------------------|-------------------------------------|-------------|--------------|----------------------|-----------------|
| Program Code Transaction Date | Transaction Date | Document Number | Transaction Description | CoA Code | Fund Code | Organization Code | Program Code |
| Expense Amount | 7/1/14 | AR034267 | Fox-Atkins Development LLC | 9 | 100014 | 699001 | 699006 |
| CoA Cd | 7/1/14 | AR034463 | ER00656997 Fox-Atkins Development L | 9 | 200201 | 699001 | 699006 |
| CoA Title | 7/1/14 | AR034797 | HR Payroll 2014 MN 7 1 | 9 | 1 10 14 | 699001 | 699006 |
| Fund Title | 7/1/14 | AR034797 | HR Payroll 2014 MN 7 1 | | 100015 | 699001 | 699006 |
| Organization Co Organization Title | 7/1/14 | AR034797 | HR Payroll 2014 MN 7 2 | 9 | 100015 | 699001 | 699006 |
| Program Cd | 7/1/14 | AR034797 | HR Payroll 2014 MN 7 2 | 9 | 301006 | 699001 | 699012 |
| E 🗁 Merged Dimensions | 7/1/14 | AR034797 | HR Payroll 2014 Juny 7 5 | 9 | 100014 | 699001 | 699006 |
| Merged CoA Code CoA Code (Query 1) | 7/1/14 | AR034797 | HR B , roll 2014 MN 7 6 | 9 | 301006 | 699001 | 699012 |
| CoA Cd (Query 2) | 7/1/14 | AR035234 | Reverse deferal of PR007189 | 9 | 100014 | 699001 | 699002 |
| Fund Code (Query 1) | 7/1/14 | AT-35570 | Accrue I5530693 Information Systems | 9 | 200201 | 699001 | 699006 |
| Fund Cd (Query 2) | 7/1/14 | F0274398 | HR Payroll 2014 BW 998 0 | 9 | 100014 | 699001 | 699006 |
| Program Code (Query 1) | 1/1/14 | F0274398 | HR Payroll 2014 BW 998 0 | 9 | 100014 | 699001 | 699128 |
| Program Cd (Query 2) | 7/1/14 | F0274398 | HR Payroll 2014 BW 998 0 | 9 | 301006 | 699001 | 699012 |
| | 7/1/14 | F0275814 | HR Payroll 2014 MN 999 0 | 9 | 100014 | 699001 | 699006 |
| Par Program Description | 7/1/14 | F0275814 | HR Payroll 2014 MN 999 0 | 9 | 100014 | 699001 | 699128 |

Training Transactions

| t | Transaction Description | CoA Code | Fund Code | Fund Description | 01 C (|
|---|-------------------------------------|-------------|--------------|-------------------------------------|-----------|
| 7 | Fox-Atkins Development LLC | 9 | 100014 | 103 FY14 GRF/EAF/IF State Funds | 69 |
| 3 | ER00656997 Fox-Atkins Development L | 9 | 200201 | 723 Educational and Admin Allow Aux | 69 |
| 7 | HR Payroll 2014 MN 7 1 | 9 | 100014 | 103 FY14 GRF/EAF/IF State Funds | 69 |

- 4. Select the **Program Description** variable.
- 5. Drag in the Report 1 table.
- 6. Drop to the right of Program Code.

| P organization code | | | | | | | |
|---|-----------------------|-------------|--------------|-------------------------------------|----------------------|-----------------|-------------------|
| Program Code Transaction Date Transaction Description | cription | CoA Code | Fund Code | Fund Description | Organization Code | Program Code | Expense Amount |
| Expense Amount | opment LLC | 9 | 100014 | 103 FY14 GRF/EAF/IF State Funds | 699001 | 699006 | \$0.00 |
| CoA Cd | -Atkins Development L | 9 | 200201 | 723 Educational and Admin Allow Aux | 699001 | 699006 | (\$210.00) |
| CoA Title Fund Cd | MN 7 1 | 9 | 100014 | 103 FY14 GRF/EAF/IF State Funds | 699001 | 6900-01 | -IProgram Day |
| Fund Title | MN 7 1 | 9 | 100015 | 103 FY15 GRF/EAF/IF State Funds | 699001 | 699006 | \$0.00 |
| Ørganization Cd Ørganization Title | MN 7 2 | 9 | 100015 | 103 FY15 GRF/EAF/IF State Funds | J00186 | 699006 | \$0.00 |
| Program Cd | MN 7 2 | 9 | 301006 | 699 AITS | 699001 | 699012 | \$0.00 |
| Merged Dimensions | MN 7 5 | 9 | 100014 | 103 FY14 GRF/EAF State Funds | 699001 | 699006 | \$0.00 |
| Merged CoA Code | MN 7 6 | 9 | 301006 | 699 AIT | 699001 | 699012 | \$0.00 |
| CoA Cd (Query 2) | of PR007189 | 9 | 100014 | 103 FY14 GRF/EAF/IF State Funds | 699001 | 699002 | \$6,144.98 |
| Fund Code (Query 1) | Information Systems | 9 | 200201 | 723 Educational and Admin Allow Aux | 699001 | 699006 | (\$3,911.31) |
| Fund Cd (Query 2) | BW 998 0 | 9 | 100014 | 103 FY14 GRF/EAF/IF State Funds | 699001 | 699006 | (\$32,643.13) |
| Program Code (Query 1) | BW 998 0 | 9 | 100014 | 103 FY14 GRF/EAF/IF State Funds | 699001 | 699128 | (\$2,644.50) |
| Program Cd (Query 2) Variables | EW 398 0 | 9 | 301006 | 699 AITS | 699001 | 699012 | (\$2,338.05) |
| * Fund Description | MN 999 0 | 9 | 100014 | 103 FY14 GRF/EAF/IF State Funds | 699001 | 699006 | (\$578,588.73) |
| ** Program Description | MN 999 0 | 9 | 100014 | 103 FY14 GRF/EAF/IF State Funds | 699001 | 699128 | (\$11,295,32) |
| | | | | | | | |

The Training Transaction report now displays both the Fund description and Program Description from Query 2.



7. Click the Save Menu button, and select Save as

8. Save your Document as Webi_Adv_Queries_Lesson1 Complete

| Save Document | | | | | 2 × |
|--|---|------|--|---|------------|
| Save in: 퉬 use | rDocs | | ٣ | D 🏠 D | |
| My Desktop My Analysis My Analysis My Documents My Computer My Computer Chiboeserv4 My Enterprise | 4-Tab PSL Student & Tuition Data.wid ACCC Timesheets Missing Records.wid Acevedo.wid Acive Job Check for BO Users.wid Acive Job Check for BO Users Mandy.wid Active jobs Monthly Cleanup.wid Active jobs Monthly Cleanup.wid Advanced Training Initial query.wid Advanced Training Practice Doc.wid adv training 070616.wid Awards 5 year engineering.wid BADM 449.wid Barnds_GPA and GRE by admit term code.wid BAT TEM DEMO.wid BLC Demo TEM Expenses.wid BPA Example Merge Dimension After Merge.wid CFOAPS.wid III | Keyv | words (separ Refresh on o Permanent re Save for all u Remove doc | rated by semicolon upen egional formatting users ument security |): |
| Files of Type: We | eb Intelligence Document | | | | Ŧ |
| | * | | | Save | Cancel |

Chapter 2: Using Excel as a Data Source

In addition to pulling data from our Data Warehouse universes, you can also add data from Excel spreadsheets to your Web Intelligence reports. For our training example, we will add additional data related to our transactions that are kept in an Excel document.

Important Note about using an Excel file as a Data Source: Prior to adding the Excel file as a query in Web Intelligence, it is important to save the Excel file to a set location on your computer or network drive. In order to run your query, Web Intelligence needs to be able to locate the Excel file, therefore if you move the document, you will have to rebuild your Excel query.

Prepare your Excel Spreadsheet

Here are some tips for optimizing your Excel Spreadsheet to work well as a data source:

- 1. Make sure your column headers are in the first row, and that the first column contains data.
- 2. If your worksheet contains UINs, format the UIN column as text in Excel.
- 3. Save your Excel document to a location where it will not be moved or deleted.

Building a Query from Excel

1. Click the Edit Query button



2. Click the Add Query button, then select From Excel

| 🗊 Que | ry Panel | | |
|---------|--------------------|----------|------------------------|
| 📴 Add | d Query 🔻 🔲 😽 | | 🤣 😁 🗈 |
| | From Universe | | 🗊 Result Objects |
| | From Excel | • • | Transaction Date Docum |
| | From BEx | ⊕∔ ⊟† | |
| 1 4 | From Analysis View | er [unx] | - Expense Amount |
| | From Text | | |
| 5 | From Web Service | | |

- 3. In the Open a document box select the My Analysis icon.
- 4. Select the **DS Training Vendor Information** document.

5. Click Open

| Open a document | | | 3 × |
|--|---|-------|--------|
| Look In: 📦 userDocs 🔻 | | D 🏠 D | |
| DS Training Vendor Information.xlsx | | | |
| My Desktop My Analysis | | | |
| | | | |
| My Documents | | | |
| My Computer | | | |
| chiboeserv4 | | | |
| | | | |
| | | | |
| Files of Type: Excel Files : *.xls, *.xlsx | | | Ŧ |
| li l | (| Dpen | Cancel |

The Customer Data Provider – Excel window is displayed. This window allows you to select specific Worksheets and to specify a field range to include in your query. Checking the **First row contains column names** option will cause the column headers to become the object names in your Excel query.

| Excel - XLSX | |
|-----------------|--|
| Source Path : | C:\Users\trishak\Desktop\DS Training Vendor Information Browse |
| Worksheet/Wor | kbook File |
| Sheet Name : | Sheet1 T |
| Field Selection | |
| | All Fields |
| | Range Definition : For example "A1:B5" |
| | C Range Name : 🔻 |
| First row of | contains column names |
| | |

6. Click OK

The query based on the Excel file will be displayed:

| 🗊 Query Panel | | | | 3 × |
|------------------------------------|------------------------|---------------------------------|-----------------------------------|-----------------------------|
| Add Query 🔻 | | | Ŕ | 🔁 Run Queries 🔻 🛛 🛒 Close 👻 |
| Object Properties | Result Objects | | | |
| Name | 🔰 Document Number 🔰 Tr | ansaction Date 🔰 Transaction De | escription 🔰 Vendor ID | |
| Qualification - | | | | |
| Туре 👻 | | | | |
| Aggregate function | | | | |
| Associated dimension | | | | |
| | | | | |
| Query Properties | | | | |
| Name Query 3 | | | | |
| Source Path : C:\Users\trishak\De: | | | | |
| Refreshable | | | | and and a second second |
| | | | | 1i |
| Query Definition 🔶 | | | 333 | |
| Edit settings | Data Samples | | | |
| | Document Number | Transaction Date | Transaction Description | Vendor ID |
| | J2145258 | 12/18/2014 12:00:00 AM | 4 Intrafinty I5707065-68 to State | 287400 |
| | AR035570 | 7/1/2014 12:00:00 AM | Accrue I5530693 Information Sy | 554222 |
| | 15621087 | 9/17/2014 12:00:00 AM | Ad Astra Information Systems LLC | 057987 |
| | 15588312 | 8/16/2014 12:00:00 AM | Allen Systems Group Incorporated | 154765 |
| | PCA2AGUJ | 8/14/2014 12:00:00 AM | Amazon.com LLC | 500021 |
| | PCA2AHVP | 8/15/2014 12:00:00 AM | Amazon.com LLC | 500021 |
| | PCA2CJVC | 12/9/2014 12:00:00 AM | Amazon.com LLC | 500021 |
| | PCA2CWV8 | 1/9/2015 12:00:00 AM | Amazon.com LLC | 500021 |
| | PCA2DS2T | 2/27/2015 12:00:00 AM | Amazon.com LLC | 500021 |
| | PCA2DS2U | 2/27/2015 12:00:00 AM | Amazon.com LLC | 500021 |
| | | | | |
| 📋 Query 1 🎁 Query 2 📴 Que | ery 3 | | | 4 ▷ 🗉 |
| | | | Last refresh date: January 12, | 2017 10:41:49 AM GMT-06:00 |

7. Review your objects to make sure they have been created correctly. Select each object and verify that the Object Properties are correct.

Note: If your Excel spreadsheet contains UINs, make sure the UIN object has a Qualification of Dimension and a Type of String. If UINs have a qualification of Measure objects or a type of Numeric, the UINs will not display properly.

8. Select the Run Queries menu button. Select to run only Query 3



9. When prompted to choose how to include the data form the new query, select **Insert a table in a new report** (default), then click **Ok**.

| Add Query | ? | × |
|--|---|---|
| Choose how you want to include the data from the new query. | | _ |
| Insert a table in a new report | | |
| Insert a table in the current report | | |
| \bigcirc Include the result objects in the document without generating a table | | |
| | | |
| ок | | |

Report 3 will be generated, displaying the data from the Excel spreadsheet.

Using Merge Dimensions to Add Data from Excel to Existing Reports

Now we will add the Vendor ID information pulled from Excel to Report 1. We will first merge Query 1 and Query 3 using a common object, Document Number.

- 1. Click on the **Report 1** tab
- 2. Holding the **Control button** on your keyboard, select the Document Number object from Query 1 and the Document Number object from Query 3



3. Right-click on one of the Document Number objects.

4. Select Merge from right-click menu



The Document Number Merged Dimension will be displayed in the Merged Dimensions folder.



Create a Variable to Add Data

Now we will create a new variable for the Vendor ID and associate it with the Document Number Merged Dimension.

- 1. Right-click on the Variables folder.
- 2. Select New Variable



- 3. Create a Variable as follows:
 - a. Name: Vendor Number
 - b. Qualification: Detail
 - c. Associated Dimension: Document Number (Merged Dimension)
 - d. Formula: =Vendor ID (Query 3)

| Create Variable | | | | | | | 3 X |
|--|---------------------------------------|---|---|---------|-------------|------|--------|
| Variable Definition | | | | | | | |
| Name: | Vendor Number | | | | | | |
| Qualification: | 🍫 Detail | | | | | | Ŧ |
| Associated dimension: | Document Number | | | | | | |
| Туре: | unknown | | | | | | |
| Formula | | | | | | | |
| =[Vendor ID] | | | | | | | × |
| Available objects | | Functions | Operators | | | | |
| Coarry 3 Coarry 3 Coarry 3 Transacti Transacti Vendor D Coarrow Coa Code T | t Number on Date on Description | Agregate All All Character Data Provider Data & Time Document Logical Misc. | = < + - Values Prompts : After All And | <= 1 | ◇ >= * ; | > (| ·) |
| | | | | | | | |
| | | | | 0 | К | Cano | cel |

4. Add the Vendor Number variable to the Report 1 table to the Right of Document Number

| CoA Code Document Number Fund Code Organization Code | Report 1 | | | | | | | |
|--|------------------|-------------|-------------|------------------------|-----------|-------|--|--|
| Program Code Transaction Date | • Transaction | Document Nu | Vendor Numt | Transaction CoA Code | Fund Code | Fund | | |
| Transaction Description Expense Amount | 7/1/14 | AR034267 | | Fox-Atkins De 9 | 100014 | 103 F | | |
| 🗐 📊 Query 2 | 7/1/14 | AR034463 | 555777 | ER00656997 9 | 200201 | 723 E | | |
| CoA Cd | 7/1/14 | AR034797 | | HR Payroll 20 9 | 100014 | 103 F | | |
| Fund Cd | 7/1/14 | AR034797 | | HR Payroll 20 9 | 100015 | 103 F | | |
| Organization Cd | 7/1/14 | AR034797 | | HR Payroll 20 9 | 100015 | 103 F | | |
| Organization Title Program Cd | 7/1/14 | AR034797 | | HR Payroll 20 9 | 301006 | 699 A | | |
| Program Title | 7/1/14 | AR034 97 | | HR Payroll 20 9 | 100014 | 103 F | | |
| Query 3 | 7/1/14 | AR7.34797 | | HR Payroll 20 9 | 301006 | 699 A | | |
| Transaction Date | 7/1/14 | R035234 | | Reverse defe 9 | 100014 | 103 F | | |
| Vendor ID | 7/1/14 | AR035570 | 554222 | Accrue 15530 9 | 200201 | 723 E | | |
| Dimensions | 7/1/14 | F0274398 | | HR Pavroll 20 9 | 100014 | 103 F | | |
| CoA Code (Query 1) | 7/1/14 | F0274398 | | HR Payroll 20 9 | 100014 | 103 F | | |
| CoA Cd (Query 2) | 7/1_4 | F0274398 | | HR Payroll 20 9 | 301006 | 699 A | | |
| Document Number (Query 3) | 1/14 | F0275814 | | HR Payroll 20 9 | 100014 | 103 F | | |
| Fund Code | 7/1/14 | F0275814 | | HR Payroll 20 9 | 100014 | 103 F | | |
| Fund Code (Query 1) | 7/1/14 | F0275814 | | HR Payroll 20 9 | 301006 | 699 A | | |
| 🖃 💋 Program Code | 7/1/14 | F0275814 | | HR Payroll 20 9 | 303134 | 699 K | | |
| Program Code (Query 1) Program Cd (Query 2) | 7/1/14 | F0276008 | | HR Payroll 20 9 | 100014 | 103 F | | |
| Variables | 7/1/14 | F0276008 | | HR Payroll 2C 9 | 100014 | 103 F | | |
| | 7/1/14 | F0276008 | | HR Payroll 20 9 | 301006 | 699 A | | |
| 👫 Vendor Number | 7/1/14 | 15521300 | | Tableau Softy 9 | 100015 | 103 F | | |

Report 1 now displays the Vendor IDs from the Excel Spreadsheet

5. Save the document.

Chapter 3: Advanced Query Filters

Using Matches Pattern Operator

The query filter *Matches Pattern* is used to find values that contain the same characters in a set pattern, for example, finding all Last Names that begin with S, or all program codes that begin with ENG. The *Matches Pattern* operator is always used in conjunction with wildcards:

- Replaces several characters, or in the response to a prompt.
 For example, N% returns all values beginning with an N (New York, Nevada, etc.)
- The underscore character (_) replaces a single character in a constant.
 For example, S_ng would find Sang, Sing, Song, Sung, etc.

Now we will create a query filter that shows all transactions with a Transaction Description that contain the text 'Cellular':

1. Click the **Edit Query** button.



2. Drag the Transaction Description object into the Query Filter panel.

| 🞁 Add Query 🔹 📰 🖬 🗌 | 🦻 😭 🗅 |
|--|--|
| 🔆 Universe outline | 🗊 Result Objects |
| Training - Operating Ledger 🔹 | J Transaction Date J Document Number J Transaction Description J CoA Code J Fund C |
| Image: Type here to fits Image: Operating Ledger [unx] Image: Transactions | Expense Amount |
| | And CoA Code In list • Co15 IE • And CoA Code In list • 9 IE • CoA Code In list • 9 IE • Coastin Code In list • 9 IE • Transaction Description |

3. Select Matches Pattern from the operator drop-down list.

| | 🔰 FY 🛛 In list | · 2015 | |
|-----|-------------------------|------------------------|---------------------|
| | 💋 CoA Code 🛛 In list | • 9 | · = |
| | Organization Code | ist 🔹 | 699001 I E • |
| | Fransaction Description | In list | • |
| Le | | Between | • |
| | | Not Between | |
| | | ls not null | |
| | | Matches pattern | |
| | | Different from pattern | |
| | te Desuisuu | Both | |
| ua: | ta Preview | E | |

4. In the Operand text box, enter: %Cellular%



5. Click Run Queries.

Results are displayed showing only rows where the text "Cellular" is found in the Transaction Description:

| Transaction I | Document Nu | Transaction I | CoA Code | Fund Code | Organization | Program Cod | Expense Am |
|---------------|-------------|----------------|----------|-----------|--------------|-------------|------------|
| 8/1/14 | CT049910 | Cellular Unlir | 9 | 200201 | 699001 | 699006 | 278.25 |
| 8/25/14 | CT050169 | Cellular Unlir | 9 | 200201 | 699001 | 699006 | 278.25 |
| 9/25/14 | CT050488 | Cellular Unlir | 9 | 200201 | 699001 | 699006 | 278.25 |
| 10/24/14 | CT050795 | Cellular Unlir | 9 | 200201 | 699001 | 699006 | 278.25 |
| 11/25/14 | CT051006 | Cellular Unlir | 9 | 200201 | 699001 | 699006 | 278.25 |
| 12/23/14 | CT051426 | Cellular Unlir | 9 | 200201 | 699001 | 699006 | 278.25 |
| 1/26/15 | CT051687 | Cellular Unlir | 9 | 200201 | 699001 | 699006 | 278.25 |
| 2/25/15 | CT051944 | Cellular Unlir | 9 | 200201 | 699001 | 699006 | 278.25 |
| 3/25/15 | CT052212 | Cellular Unlir | 9 | 200201 | 699001 | 699006 | 278.25 |
| 4/24/15 | CT052526 | Cellular Unlir | 9 | 200201 | 699001 | 699006 | 278.25 |
| 5/26/15 | CT052807 | Cellular Unlir | 9 | 200201 | 699001 | 699006 | 9.3 |

Using "or" Logical Operator with Matches Pattern

Since operand values are case-sensitive, a Transaction Description containing the text 'CELLULAR' would not be displayed in our results. In order to capture these possible variations, we will add another filter to our query.

1. Click the Edit Query button.



2. Drag the **Transaction Description** object into your Query Filters. Drop the object **on top of** the Transaction Description filter we created in the previous exercise:

| U R | lesult Objects |
|------------|---|
| 1 | Transaction Date Document Number |
| | Expense Amount |
| | |
| Y 0 | Query Filters |
| | FY In list • 2015 |
| And | ✓ CoA Code In list |
| And | Ørganization Code In list ▼ 699001 III ▼ |
| | ✓ Transaction Description Matches patter ▼ %Cellular% III - |
| | Transaction Description |

| 7 0 | Query F | ilters |
|------------|------------|--|
| | 🔰 F | ry In list ▼ 2015 [IΞ] ▼ |
| | ø (| loA Code In list ▼ 9 III - |
| And | ø (| Organization Code In list 🔹 699001 |
| | And | Transaction Description In list |
| | And | ✓ Transaction Description Matches pattern ▼ %Cellular% |
| | L | a |

3. Click the **And** logical operator that connects the two Transaction Description Filters to change it to **Or.**



4. Change the Operator for the new filter to Matches Pattern:

| [| - | | | |
|--------|-------------------------|------------------------|---|----------------|
| | Transaction Description | Matches pattern | ₹ | Ξ |
| Or | | Between | | |
| | Transaction Description | Not Between | | %Cellular% 🗄 👻 |
| LI | | ls null | | |
| | | ls not null | | |
| | | Matches pattern | | |
| | | Different from pattern | Ξ | |
| | | Both | | |
| Data P | review | Except | Ŧ | |

5. In the **Operand** text box, type: %CELLULAR%

| 0. | Transaction Description | Matches pattern | ▼ %CEL | LULAR% | ΙΞ | • |
|----|-------------------------|-----------------|---------|--------|----|---|
| Or | Transaction Description | Matches pattern | ▼ %Cell | ular% | := | • |

6. Click Run Queries

Now results include rows where the transaction description includes the text "Cellular" or "CELLULAR".

| Transaction I | Document Nı | Transaction Descript | CoA Code | Fund Code | Organization | Program Cod | Expense Am |
|---------------|-------------|-----------------------|----------|-----------|--------------|-------------|------------|
| 8/1/14 | CT049905 | CELLULAR - TELEPH | 9 | 200201 | 699001 | 699006 | 5.25 |
| 8/1/14 | CT049910 | Cellular Unlimited EV | 9 | 200201 | 699001 | 699006 | 278.25 |
| 8/25/14 | CT050163 | CELLULAR - ACTIVAT | 9 | 200201 | 699001 | 699006 | 75 |
| 8/25/14 | CT050164 | CELLULAR - TELEPH | 9 | 200201 | 699001 | 699006 | 5.25 |
| 8/25/14 | CT050169 | Cellular Unlimited EV | 9 | 200201 | 699001 | 699006 | 278.25 |
| 9/25/14 | CT050342 | CELLULAR AIR TIME | 9 | 200201 | 699001 | 699006 | 0.18 |
| 9/25/14 | CT050358 | CELLULAR SURCHA | 9 | 200201 | 699001 | 699006 | 0.97 |

Removing Query Filters

We will now remove both of our Transaction Description filters prior to our next exercise:

1. Click the **Edit Query** button:



2. Select the first Transaction Description query filter and press the Delete key on your keyboard:

| Or | Transaction Description | Matches pattern | Cellular% | • | Delete |
|----|-------------------------|-----------------|-----------|-----|--------|
| 01 | Transaction Description | Matches pattern | CELLULAR% | • 3 | |

3. Repeat step 2 and delete the other Transaction Description query filter.

Filter on Results from another Query

The **Results from Another Query** option when filtering allows you to use a list of values from another query within your Web Intelligence Document as a filter. Examples of this would using a list of UINs from an excel spreadsheet as a filter for a query against a universe. In our example, we will filter Query 1 to show only the transactions that are found in our Excel database (Query 3).

Note: Before you can create a filter using the results from another query, you must first run the query.

1. In Query 1, drag the Document Number object into the Query Filter panel.

| 🗊 R | esult Objects | | |
|--|----------------------------|-------------|--|
| Transaction Date Document Number Transaction Description | | | |
| | Expense Amount | | |
| | | | |
| 70 | Query Filters | | |
| | FY In list | ▼ 2015 := - | |
| | 💋 CoA Code 🛛 In list | ▼ 9 | |
| And | Organization Code | ▼ 699001 | |
| | 🔰 Document Number 🛛 In lis | t 🔻 🖽 🗄 👻 | |

- 2. Leave the operator as In List (Default value).
- 3. Click the **Operand Menu Button**.
- 4. Select **Results from Another Query**.



5. Select Document Number (from Query 3) and click **Ok**.



6. Click Run Queries.

Displayed results in Report 1 are now limited to the Transactions that were found in Query 3.

Report 1

| Transaction I | Document Nu | Vendor Numt | Transaction Description | CoA Code | Fund Code | F |
|---------------|-------------|-------------|-------------------------------------|----------|-----------|---|
| 7/1/14 | AR034463 | 555777 | ER00656997 Fox-Atkins Development L | 9 | 200201 | 7 |
| 7/1/14 | AR035570 | 554222 | Accrue 15530693 Information Systems | 9 | 200201 | 7 |
| 7/1/14 | 15523588 | 773001 | CollegeSource Inc | 9 | 200201 | 7 |
| 7/1/14 | 15525526 | 287400 | Intrafinity Incorporated | 9 | 200201 | 7 |
| 7/1/14 | 15530622 | 800021 | Ellucian Support Inc | 9 | 200201 | 7 |
| 7/1/14 | 15530693 | 897789 | Information Systems Group Incorpora | 9 | 200201 | 7 |
| 7/1/14 | 15536187 | 224410 | FE Moran Inc Alarm & Monitoring Ser | 9 | 200201 | 7 |
| 7/1/14 | 15536188 | 224410 | FE Moran Inc Alarm & Monitoring Ser | 9 | 200201 | 7 |
| 7/1/14 | 15537626 | 321123 | SSH Communications Security Inc | 9 | 200201 | 7 |

Note: Web Intelligence queries use Oracle, and Oracle has a list of values limit of 1000 values. So if the list of values from the other query cannot contain more than 1000 rows of data.

- 7. Save your document.
- 8. Exit Web Intelligence.

Appendix A – Additional Assistance

Decision Support Website

Additional resources and online help can be found on the Decision Support website. Resources include user guides and quick tips on using both Web Intelligence and EDDIE.

https://www.aits.uillinois.edu/services/reports_and_data/help_and_training/

AITS Service Desk

For further assistance, or to report a problem, contact the AITS Service Desk:

| Email: | servicedeskaits@uillinois.edu |
|-----------------------|-------------------------------|
| Chicago: | (312) 996-4806 |
| Urbana & Springfield: | (217) 333-3102 |

SAP Web Intelligence Online Help

Web Intelligence provides on-line assistance and information about basic product features, as well as information to help you troubleshoot and solve common problems.

Click the in the upper right corner of the Web Intelligence window.

| | | | | ð | x | |
|-----------|-------|-----------|--------|-----|---|-------|
| Reading D | esign | - Data | () | ? • | × | FILE |
| | ? | Help Cont | ents | F1 | | ĥ |
| | | Tutorials | | | | Paste |
| | | About | | | * | |
| | | | | | | н. |
| | | | | | | |

Help Contents

This will take you to the SAP Web Intelligence online help.

Tutorials

This options is not enabled at this time and will take you to the main SAP website. SAP does have a limited amount of video tutorials located on their YouTube Channel.

About Web Intelligence

This contains version and licensing information.

Appendix B – Query Filter Operators

The following table helps you to select the operator you need:

| Operator | Description | Example |
|--------------------------|--|--|
| Equal to | Is equal to one given value | Year Equal to 2005 |
| Not Equal to | Is different from, or not equal to, one given value | Employee Status Code Not Equal to T |
| Greater than | Is greater than a given value | GL Detail Credit Amount Greater than 100 |
| Greater than or Equal to | Is greater than or equal to a given value | GL Detail Credit Amount Greater than 100 |
| Less than | Is less than a given value | Job Detail Annual Salary Less than 20000 |
| Less than or Equal to | Is less than or equal to a given value | Employees who are 60 or under |
| Between | Is greater than or equal to the first given value and less than or equal to the second given value | Job Begin Date Between 1/1/2004 12:00:00 AM and 12/31/2004 11:59:59 PM |
| Not Between | Is less than the first given value or greater than the second given value | Employee Age Not Between 18 and 60 |
| In list | Is equal to any of a list of values | Employee Campus Address Code In list (C1;C2) |
| Not in list | Is different from all of a list of values | Employee Detail Department Code Not in list (103;714;715) |
| ls null | Contains empty rows | Employee Campus Email Addr Type CD Is null |
| ls not null | Does not contain empty rows | Employee Campus Email Addr Type CD Is not null |
| Matches pattern | Contains the same character(s) as the given pattern | Employee Last Name Matches pattern S% |
| Different from pattern | Does not contain the same characters as the given pattern | Financial Account Code Different from pattern 9% |
| Both | Satisfies two conditions on one object | Prior Degree Year Both 2001;2004 |
| Except | Excludes a given value | Employee Status Code Except T |

Using In list

You can type your list of values in the text field of the *Type a constant* text box. If you click the **Operand** button, you can also select **Value(s) from list** to select from a list of values. The maximum number of values allowed in a list is 256.

Note: When entering multiple values manually, use a semi-colon (;) to separate each value.

Using Not equal to; Not in list; and Except

Not equal to; Not in list; and *Except* are all operators that exclude certain data from your query results. Note also that you can only specify one value with *Not equal to,* but multiple values with *Not in list*.

Using wildcard characters

Conditions with the *Match pattern* and *Different from pattern* operators are great for finding lists of similar values, such as customer names beginning with S.

Wildcard Description

- % Replaces several characters, or in the response to a prompt.For example, N% returns all values beginning with an N (New York, Nevada, etc.)
- The underscore character (_) replaces a single character in a constant.
 For example, GR_VE returns Grave, Grove, Greve, etc.

Appendix C – Query Filter Operand Options

The following table helps you select the operand option you need:

| Operand Option | Description | Enter by |
|----------------------------|-------------------------------|-------------------------------------|
| Constant | Values that you type | Type the values with a |
| | | separator (semicolon) |
| | | between each one. The |
| | | separator to use is defined in |
| | | the Windows Control Panel |
| | | (Regional Settings> Additional |
| | | settings.>List separation) |
| Value(s) from list | Values that you select from | Select Value(s) from list |
| | the object's list of values | option. Select from the |
| | | populated list of values. Click |
| | | Refresh values if list does not |
| | | automatically populate. |
| Prompt | Values that you will select | Edit default prompt text in |
| | when you run the query | text box. Click 😤 Prompt |
| | | Properties for more options. |
| Results from another query | Use a list generated by | Select Results from another |
| | another query, for example: a | guery then select the data |
| | list of UINs from another | provider from list. |
| | spreadsheet. | |