SAN JOSE EVERGREEN COMMUNITY COLLEGE DISTRICT: WEB INTELLIGENCE CASUAL USER TRAINING

CROA REGULAR USER TRAINING

BI Guardian

Version: 1.0
Last updated: March 15, 2019

DOCUMENT CHANGE HISTORY

Document Version	Date	Description of Change	Affected Sections
1.0	March 15, 2019	Baseline – beginning of all content	All

CONTENTS

INTRODUCTION

This document provides an overview to several common reporting and query activities in the BusinessObjects Web Intelligence reporting tool that is part of the San Jose Evergreen Community College District (SJECCD) Business Intelligence (BI) implementation. The material is designed for structured training and as a reference when working independently. The *"SJECCD Using BusinessObjects BI launch pad Quick Start"* document is a useful prerequisite since this training assumes familiarity with how to login, access and view reports, and handle basic navigation tasks.

This document presents a set of learning objectives common to all business areas. The practice steps can be performed using the *"Basic Person Demographics"* report document found by navigating to the 'Documents' tab → 'Folders' bar → 'Public Folders' → *"SJECCD Training"* folder. The practice steps are followed by sections intended to improve the understanding of data in specific business areas. The goal of this training is to provide users with the basic skills necessary to open, refresh, and explore reports and data within the constraints of the Ellucian-provided Operational Data Store (ODS). This training does not cover report development or modifications to the ODS to add additional data elements that may be needed. That is typically an IT function.

UNDERSTANDING DATA FLOW

The following diagram (Figure 1) depicts how data flows from the source to the end user viewing it. The most common way to view data is in a Web Intelligence report in the BusinessObjects BI Launch Pad environment. Data can come from any number of sources, but in the SJECCD BI implementation, it is ultimately from Ellucian Colleague. Data is extracted and transformed from the Colleague database into the ODS database. From there, it is accessed by the BusinessObjects environment.

> *TIP:* Because the data in the BusinessObjects reporting environment stems from this data flow, it is not updated in "real time," but is refreshed each night and therefore current as of the previous evening unless otherwise stated by IT. This should be adequate for most types of reporting.

It is also important to understand that at any layer of this flow, data can be filtered or manipulated for a given reporting need. Editing filters for blocks, reports, and documents (which contain the query definition for the Universe) is covered in a separate section later in this document. This document does not cover editing filters for Universes and databases. Ellucian

typically predefines and delivers these filters. In most cases, they should not be changed to ensure the correct operation of the Ellucian–BusinessObjects integration.
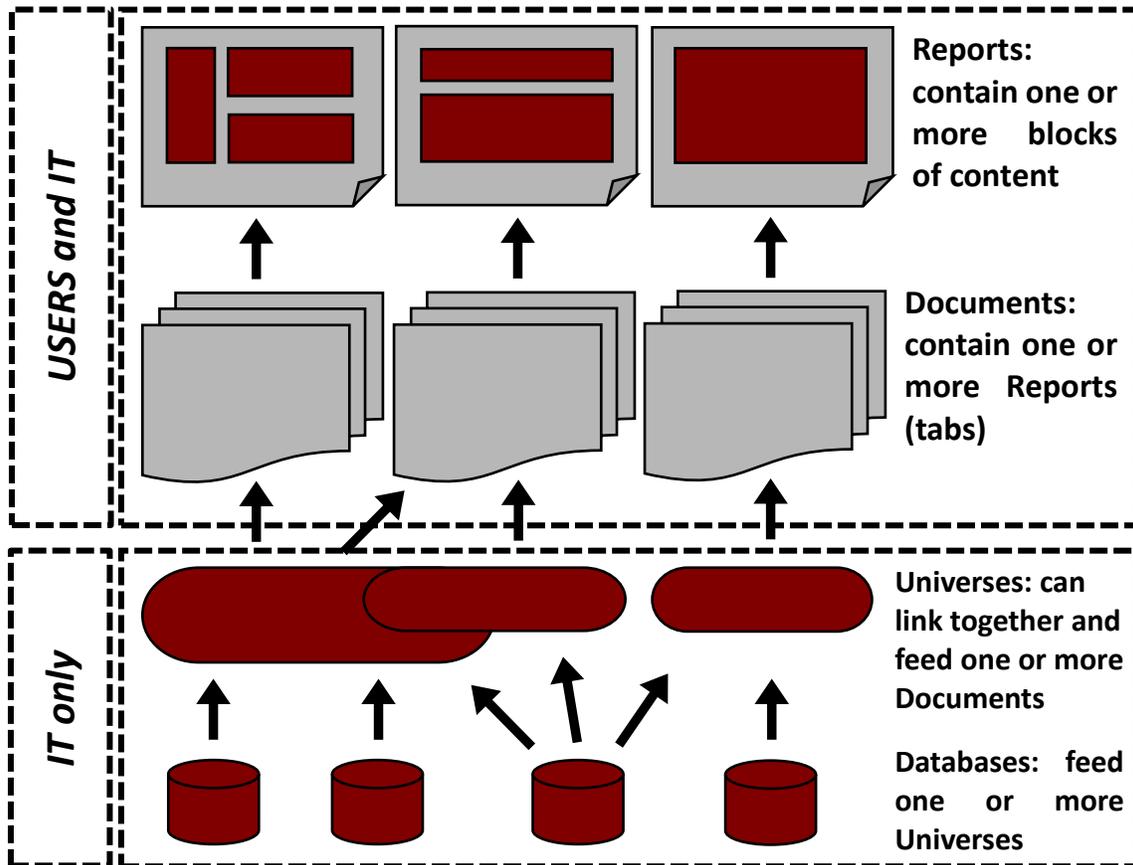
Figure 1: Data flow from source to report

> **TIP:** The term Web Intelligence "document" and "report" are often used interchangeably, since it is common for a document to only contain one report (tab). Despite the mixed usage, it is important to understand that the data query is defined at the document level, and the result set is used by every report (tab) in a document.

COPYING AN EXISTING REPORT

It is always a good idea to copy a report before making any changes so you have the original in case you need to refer back to it or start over. There are two ways to copy a report.

> _TIP:_ It is a best practice to put a version number in the report name and any comments in the report description properties to describe the changes since the last version.

Learning Objective

Be able to copy a report, give it a new name, and update the report properties with additional information.

High Level Overview

1. Navigate to the report you wish to change
2. Method 1: Copy and rename the report using the right click and menus
3. Method 2: Copy by opening a report and saving it to a new name (and folder location if desired)

Practice Steps

STEP 1: Log in to BI Launch Pad and select the 'Documents' tab. The default view is "_My Documents_" and includes the "_My Favorites_" folder. Documents in this folder are only visible to you. To view shared/public folders, click anywhere on the 'Folders' bar from the menu at the bottom left-hand corner of the screen. After clicking on the 'Folders' bar, navigate to the "_SJECCD Training_" folder ("_Public Folders_" → "_SJECCD Training_"). We will use the "_Academic Credentials for Persons_" report.
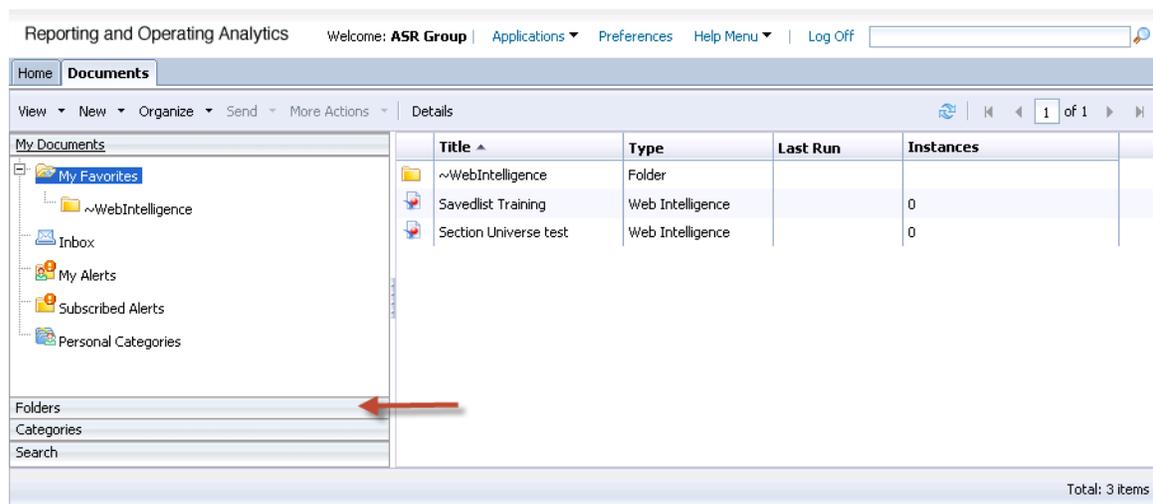
STEP 2: The first method is to right click on the report and select 'Organize' → 'Copy' from the context menu. To save a copy in the same folder location, simply right click again and select 'Organize' → 'Paste'. This will put a new copy of the document in the same folder with a *"[1]"* at the end of the name. You can also navigate to a new folder such as your *"My Favorites"* folder to paste the report there. If there is no pre-existing document with the same name, the *"[1]"* will not be added to the file name.
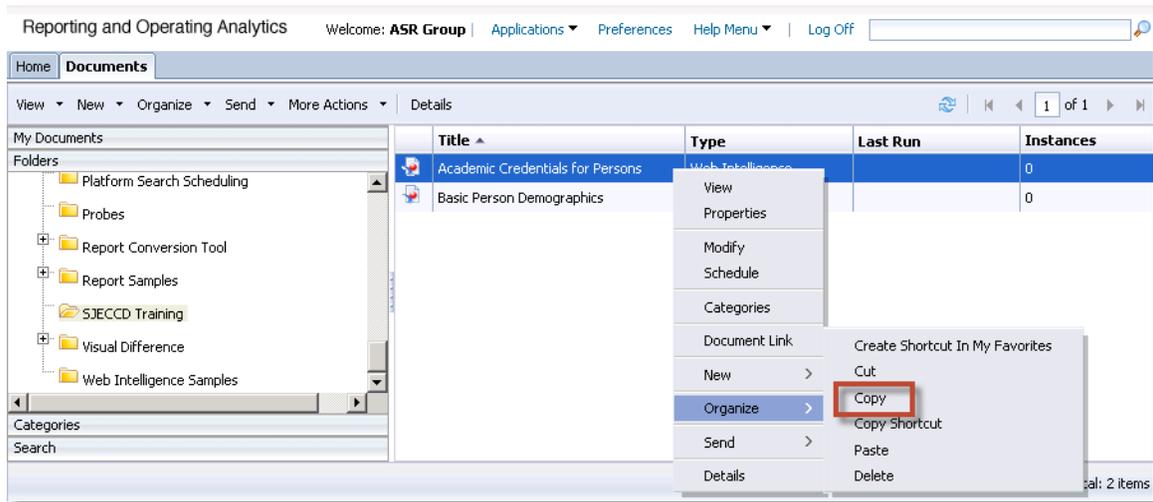
> **TIP:** Your *"My Favorites"* folder is ONLY accessible to you and any documents there cannot be seen or changed by another person. This is an ideal place to keep your reports while they are still in development – before you want them to be used or accidentally modified by others. When you are satisfied with a report and want to share it, you can use the same procedure to copy it into any of the *"Public Folders"* that you have access to.

STEP 3: To rename the document and update the description, right click on the document name and select 'Properties'. Fill in the desired information and click 'Save' or 'Save and Close' to save the changes.

> **TIP:** The *"~Web Intelligence"* folder under the *"My Favorites"* folder is not a good place to store documents. It is a temporary working area used by the system. However, you can create new folders in your *"My Favorites"* folder if you wish to organize your documents.

STEP 4: The second method to copy a report: right click on the report and select 'View' to open it. Use 'Save As' to save it to a new folder location and name. The default folder is "*My*

Favorites", which, again, is only visible to you and a good place to save documents that you are working with. Click on the '>>' button if you want to view or edit the report description before saving.
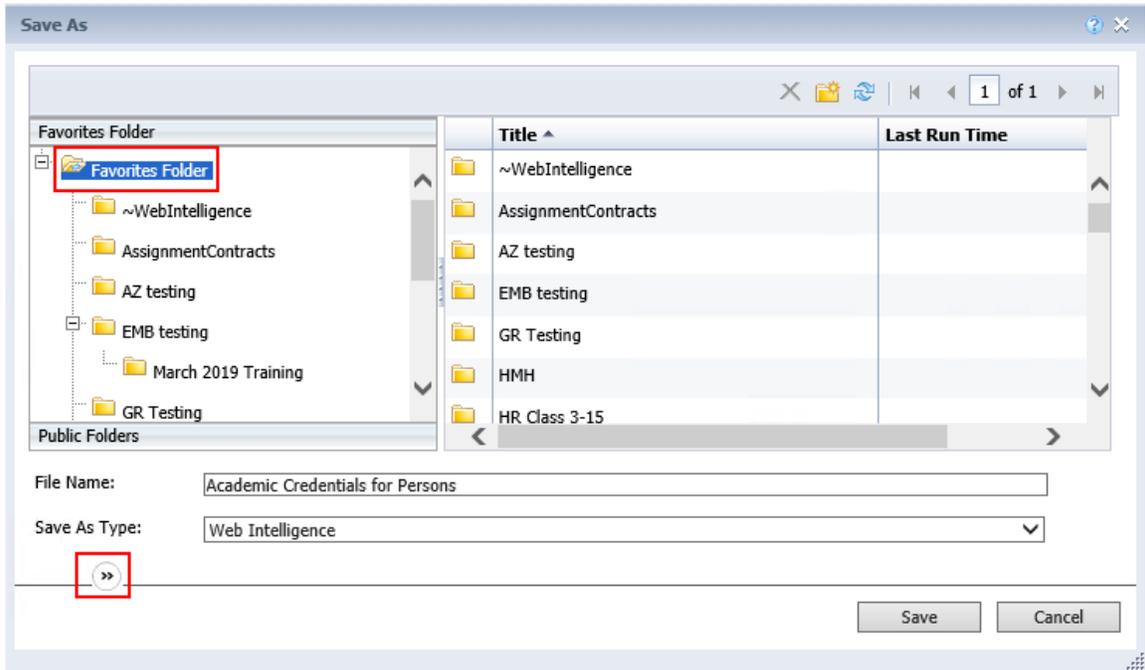
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UNDERSTANDING HOW TO REFRESH DATA IN A REPORT

One useful feature of Web Intelligence documents is that they encapsulate the data resulting from the query as part of the document itself. This means that a document and the report(s) it contains are actually a "snapshot" of the data. Documents/reports can be set up to refresh automatically when you open them.

Refreshing data initiates the database query based on the query specification in the Web Intelligence document. The report designer creates the query specification. Depending on the query, it may take a few seconds or a few minutes to return results. When the query is finished, the document displays with the new data. You can choose to save the document with the new data or close it without saving to preserve the previous version of the data.

Since the data from the source database is updated overnight, refreshing a document more than once a day will not bring in new data and will not affect the query results UNLESS the document has prompts that provide for selecting specific values such as codes or date ranges that filter the query results. Refreshing data for a document is the only way to change prompt values.

Learning Objective
 Refresh a document's data to get the latest information from the database.

High Level Overview
1.   Navigate to the report you wish to access
2.   Open the document and click the refresh icon ( )
3.   Activate 'Track Changes' for a document

Practice Steps

STEP 1: Log in to BI Launch Pad, click the 'Documents' tab, and navigate to a folder containing a document you wish to access. In this example, we can use the "*Academic Credentials for Persons"* document that we copied to your *"My Favorites*" folder in the last section.

STEP 2: Right click on the document and select 'View' to open it. If it is set to refresh on open, the query will initiate, display any prompts for you to fill out if they are defined in the query (Use %John% for the "*Academic Credentials for Persons"* report), and then display the results.
        NOTE: You can also open the document by double clicking on it.

STEP 3: If it is not set to refresh when opened, the document will display with data that was available the last time the document was saved. To update the data to the latest version

available, click the refresh icon ( ) to initiate the query. In 'Reading' mode, the refresh icon is located in two places:
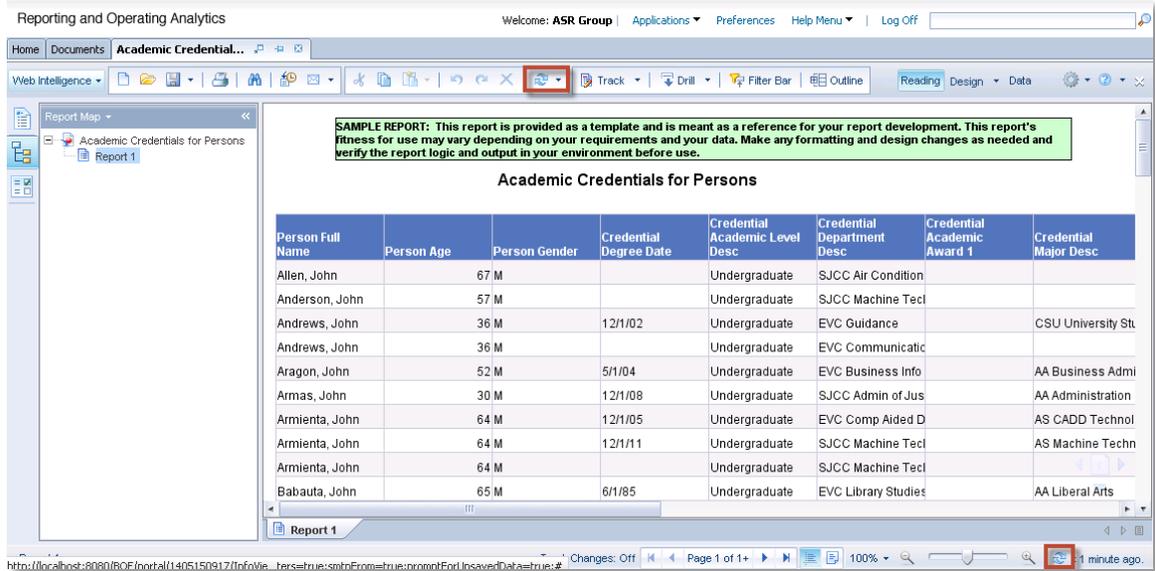
STEP 4: In Web Intelligence, there is a 'Track' option that initiates a track changes capability very much like Microsoft Word's track changes feature. You can select a reference date option of either the last data refresh date or an earlier data refresh date from the dropdown menu. The report will display information that is added, deleted, or changed since the reference date. The track changes feature applies to anyone who views or refreshes the document. There are two places to initiate the track changes feature in 'Reading' mode, at the top and bottom of the page:
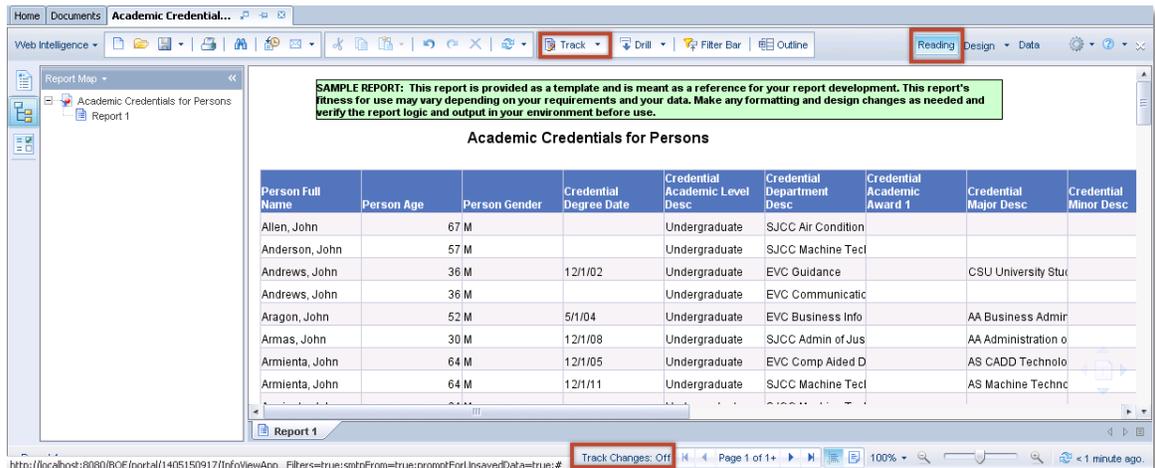
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WORKING WITH PROMPTS AND WILDCARDS

Prompts provide flexibility in the data selected for a report. For example, you may want to display an enrollment report for a given campus or as of a given date, but not want to have two versions of the same report when the only difference is the campus being selected or date. Prompts allow you to change the queried data by applying the prompt value as a filter.

Note: There are many types of filters and these are covered in more detail in a later section.

The report designer can set prompt values to be required or optional. A prompt can also request value(s) for one or more different data elements. They allow wildcards to select ranges of data. Prompts can also force selection of specific defined values from a list to ensure accurate entry and prevent empty result sets.

Learning Objective
 Enter data in prompts and select values using wildcards and lists.

High Level Overview
1. Navigate to the report you wish to access
2. Open the document and click the refresh icon
3. Set required prompt entries
4. Add or remove, sort, and search for prompt entries
5. Use wildcards to search for prompt entries

Practice Steps

STEP 1: Log in to BI Launch Pad, select the '<u>Documents</u>' tab, and navigate to a folder containing a copy of a document you wish to edit. In this exercise, we will use the "*Average Course Grade by Term, Courses, Department"* document in the "*Public Folders"* → *"SJECCD Training"* folder.

STEP 2: If you haven't done so already, copy the report to your "*My Favorites*" folder, then right click on the document, and select '<u>View</u>' to open it. If a report is set to refresh on open, the query will initiate and display the defined prompts. If not, click the refresh icon to display any defined prompts. Below shows the prompt for the "*Average Course Grade by Term, Courses, Department"* report.

STEP 3: By default, Web Intelligence remembers prompt entries from the last run. If a prompt value is filled in, you will see a green check mark to the left. If a required prompt value is not filled in, you will see a red arrow. Optional prompts can be left blank. You will be able to click '<u>OK</u>' only when all *required* prompt values are set. Until then, it will appear grayed out.
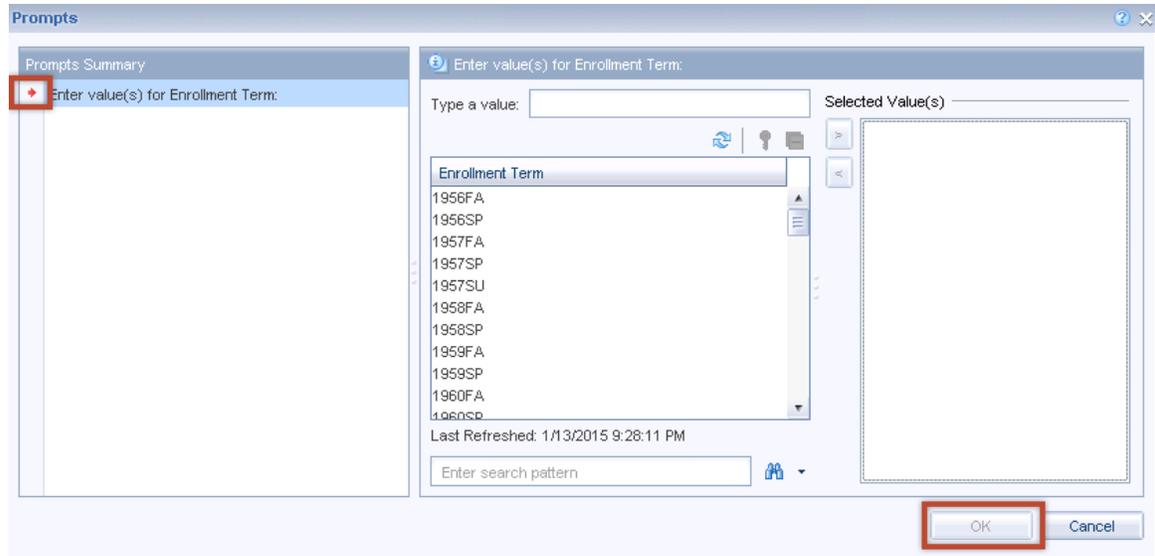
STEP 4: You may notice that the "*Enrollment Term*" values are not sorted. You can easily sort by clicking on the column header of a list of values for ascending and click again for descending. To select a value, highlight the desired value in the list. Click the '>' arrow button to move it to the right hand box of entered values (or double click on it). To remove a value from the box of selected values, you can highlight it and click the '<' button. For prompts that allow more than one value, as in this example, if you know the value you need, you can just enter it in the 'Type a value:' field. If the prompt allows multiple values, you can select multiple values by holding down the 'Ctrl' key while you click on the desired values.

> **TIP:** Normally, the list of values to choose from, such as the "*Enrollment Term*" in the example, is refreshed automatically when the prompt dialog box is opened and remembered from the previous run. However, if you do not see all the values you expect, you can click 'Refresh Values'.
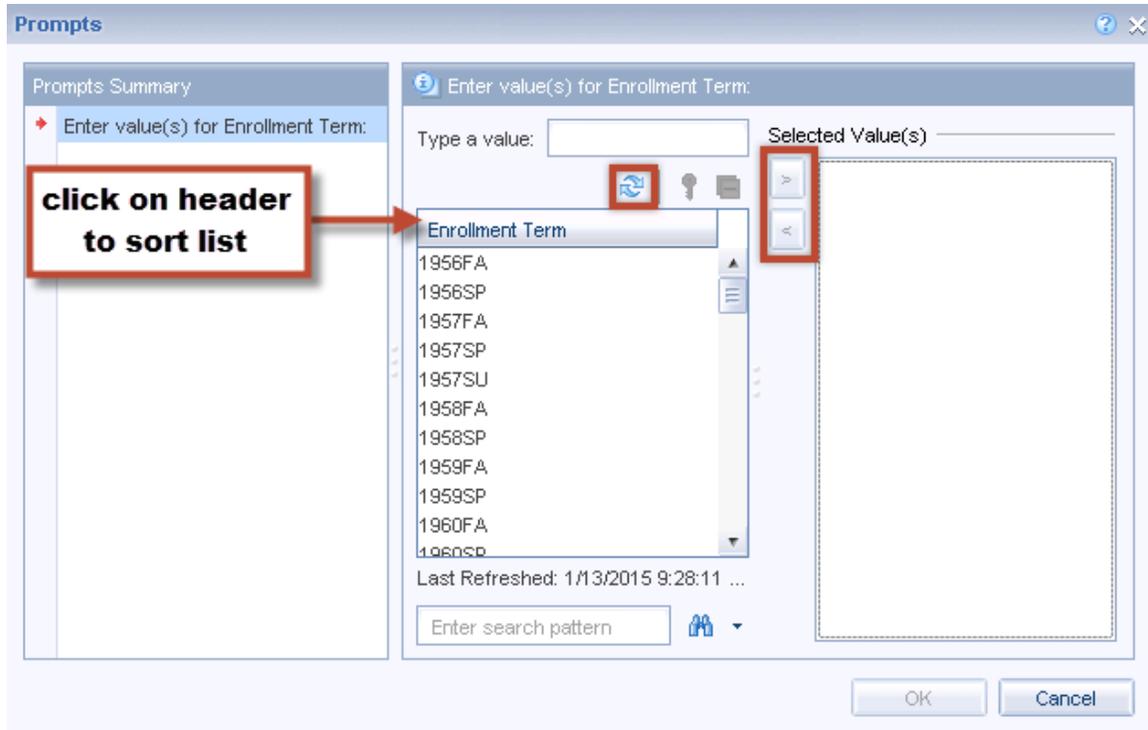
STEP 5: If you have a particularly long list of values, you may see only a partial list presented as a set of collapsed folders. For performance reasons these selection lists limit the number values displayed. These settings are defined by Ellucian by default and can be adjusted by the system administrator. To view more values, maximize any of the folders by clicking the plus sign. In addition, if you are not certain of a given value, or wish to limit it to certain values, you can enter search criteria for the list in the 'Enter search pattern' field at the bottom of the list of values. Below is an example from a different report that shows what this looks like when list of values are grouped.
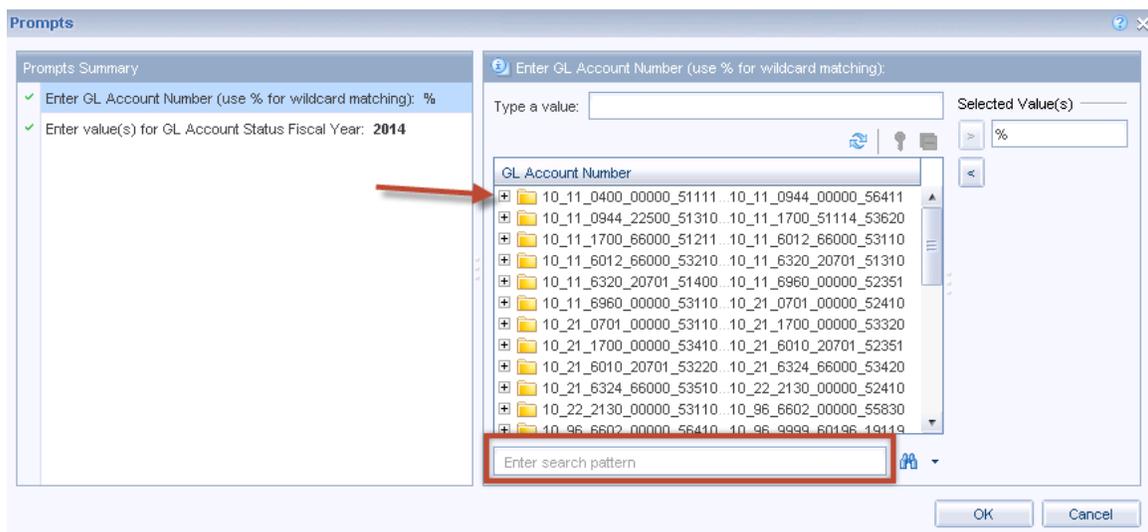
STEP 6: Wildcards can be used in search and selection boxes to substitute one or more characters and find values that match certain patterns. Wildcards are special characters that denote any single character or any number of characters. In Web Intelligence prompts, you can use the following wildcards:

> **?**   The question mark represents any single character
>
> *****   The asterisk symbol represents any number of characters**

Understanding the single-character wildcard:

> To look for either **SHIRTS** or **SKIRTS**, use the pattern **S?IRTS**. This pattern specifies that the values retrieved must be six characters long and have **S** as the first character and **IRTS** as the final four. The **?** means that there can be a single unspecified character between the **S** and the **IRTS**.

Understanding the multiple-character wildcard:

> To look for a person's name that begins with the letter **B**, use the pattern **B***. This pattern specifies that the values retrieved must have **B** as the first character. The ***** means that the **B** can be followed by an unspecified number of characters.

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UNDERSTANDING AND WORKING WITH FILTERS

Data can be filtered at many levels in the flow as shown in Figure 1 (Understanding Data Flow). The decision to filter data at a given level can depend on a number of factors including reporting need, performance impact, and space requirements. In general, it is best to query as much data as possible to allow for the greatest flexibility in creating "variations on a theme" reports and "slice and dice" cross tabs –provided the required space and performance expectation are not negatively impacted.

At the database level, data is typically filtered before it is stored in the database so that it is limited to only the data necessary for reporting and analytic needs. In the case of Ellucian's Data Orchestrator ODS database, Ellucian uses transforms to define the content. In general, these filters should remain as defined by Ellucian as they are an integral part of the overall successful operation of the Ellucian reporting components.

At the Universe level, data may be further filtered to show only certain categories of data for specific types of reporting so that it makes sense in the context of the report. An example would be a *"Students"* filter that automatically ensures a data query only pulls person records who are defined as students in Colleague according to your business rules. Again, Ellucian has defined these and they usually should not be changed so that Ellucian-delivered Web Intelligence reports, dashboards, and analytics that depend on them will work as expected.

This section will focus on the remaining types of filtering that can be set up for queries, reports, and blocks to control what is selected or displayed, as well as simple report filters. Filtering is also covered in greater detail in some of the references at the end of this document. Note that query, report, and block filters are only available to report writers; those with casual view-only access can use the simple report filters.

Query Filters

'Query Filters' control what data is selected from the Universe (and ultimately from the source database) and therefore the total scope of data available for the entire Web Intelligence document and all its report tabs and report blocks. The tendency is to think of ONE report result and filter here, when in fact, it can be useful to select all dimension values and create "variations on a theme" reports or "slice and dice" reports that allow analysis of data from many angles. However, query filters have the additional flexibility of being able to filter a value dynamically, based on the value of another data element. This CANNOT be done with report, block, or quick filters.

Remember, data can be included in a query but then filtered or hidden at the report or block level. Use 'Query Filters' carefully - they can powerfully filter the data, but the filter will always apply to the *entire* document. Query filters are only available to users with report creator access.

Report Filters

A report filter controls what data is available and shown on an entire report (tab) and all of its blocks, even if there are more data values available from the resulting query. This is a useful way to make multiple reports in the same document but show slightly different versions of the same basic data or display. Report filters are only available to users with report creator access.

Block Filters

A block filter is very similar to a report filter, except it controls only the data shown on a selected block. A block could be of any template type such as a list, crosstab, visualization (chart), etc. This is a useful way to make multiple groupings of things for comparison, such as sessions to session and year to year in blocks shown side by side. Block filters are only available to users with report creator access.

Simple Report Filters

A simple report filter is similar to a report filter in that it controls all of the data that is shown on a given report (tab). However, one difference is that for a given filter, only ONE value can be selected a time. This is useful for having quick slice and dice reports without having to set up a crosstab with drag and drop dimensions. More than one data element can be used on the simple report filter bar to sub-select to multiple levels of granularity. This is the only type of filter available to casual users with view-only access to webi.

Practice Steps
STEP 1: Select the Web Intelligence document you wish to view. In our example, we are using the "*SJECCD Training Report"* in *"Public Folders"* → *"SJECCD Training"*. If permissions allow, a simple filter can be added to a report**.** Open the "*SJECCD Training Report"* in 'View' mode.

STEP 2: Select the '<u>Filter Bar</u>' button in the middle of the report viewer toolbar. Click the icon to add a simple report filter. Select the data element desired.
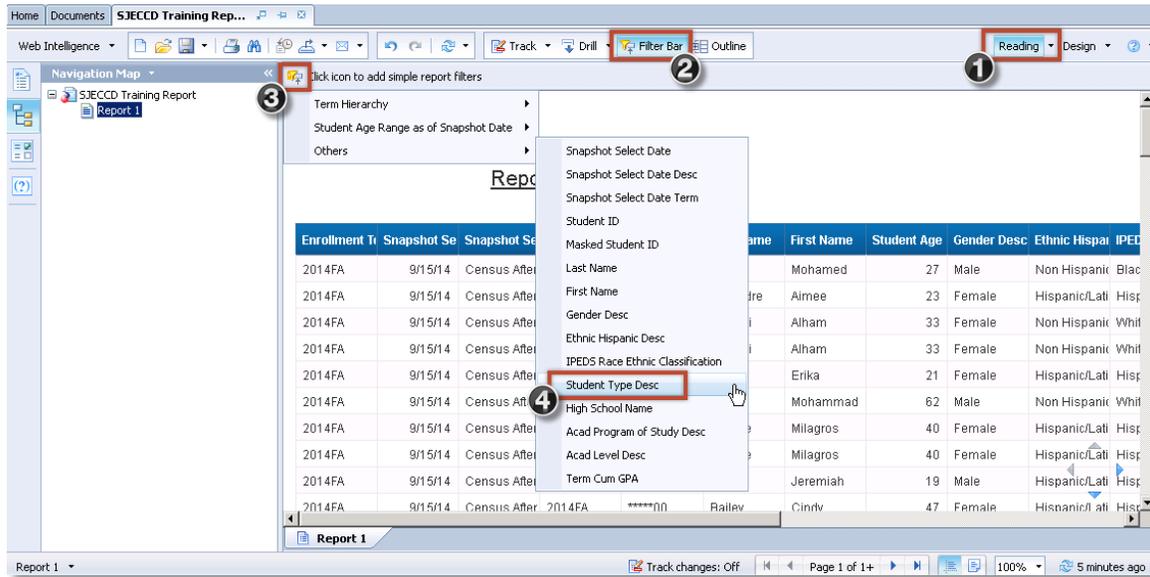
STEP 4: Note that you cannot drag and drop data elements from the '<u>Available Objects</u>' panel. You have to use the list, seen above, to select objects. To remove filters, click the dropdown list on the filter bar for the object you wish to remove, scroll to the bottom, and select '<u>(Remove)</u>'.
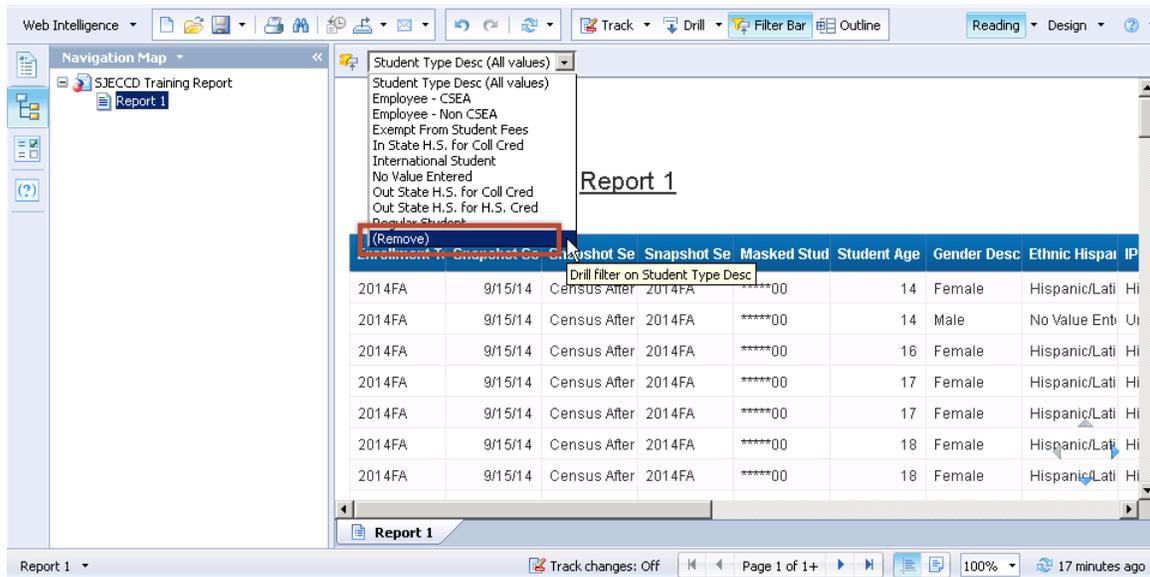
STEP 6: Click the '<u>Save</u>' icon and then close.

UNDERSTANDING THE AVAILABLE DATA

Ellucian has organized the data for reporting in BusinessObjects largely by Colleague application. Therefore, there is one Universe for each Colleague system such as HR or Finance. Each is covered in more detail in the subsequent sections. Unfortunately, this structure does not always correlate directly to how an institution is organized or the reporting data needed for various offices or job responsibilities. The information about available data in this section is based on the Ellucian ODS version R2 and associated BusinessObjects Universes.

Components of a Universe

A Universe is a representation of data for reporting purposes that hides the technical complexities of how data is physically stored and related behind the scenes in the database. The structure is designed to make reporting easier for the business users and support self-service without having to rely completely on IT. A Universe has several components that are important to understand when you build a query for a report.

Class – a folder that is a collection of related data elements

Object – a data element of a class

Hierarchy – an order of precedence of data elements that implies a drill path, such as Year → Month → Week → Day.

Measure – a predefined calculation in a class, such as *"Total Students"*, *"Average GPA"*, *"Percent of Budget"*, etc.

Filter – a reusable predefined set of selection criteria created once that represent a specific subset of the data. For example, *"Students Only"*.
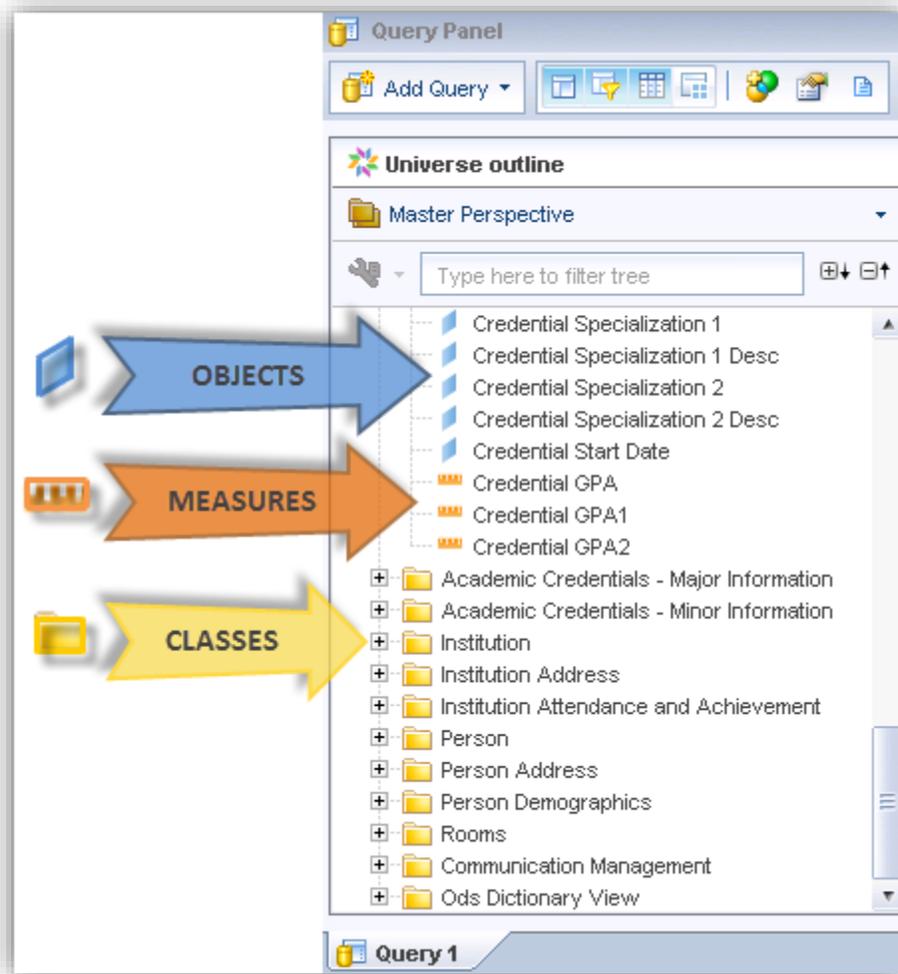
> *TIP:* Hovering over an object for a moment will pop up a small help box with a description of the object and some key information about the source data and field name in Colleague.

Furthermore, some Objects and Measures may be modified, derived, or have some action performed on them to represent the data in a certain way that is different than the way you might see it on a Colleague screen. This is often done for formatting, grouping, automatic totaling, and other purposes. One example of this in the CORE Universe is the *"Person Age Band"* object in the *"Person"* class/folder. This data object will display the age in groupings or buckets so there are fewer values to view. Banding of information is a useful way to categorize information for better analysis. The description and age bands are as follows:

> "Age band: less than 18, 18 - 20, 21 - 25, 26 - 30, 31 - 40, 41 - 50, 51 - 61, 62 - 65, 66 - 67, 68+   [Source: BIRTH.DATE]"

Other Things to Know About Universes and the Data

Many classes of data in the Ellucian-delivered Universes assume only "current" values and may not contain all the history of data in Colleague. For example, *"Student Programs"* by default is filtered automatically in the ODS to ONLY contain active programs as of the ODS refresh date.

Similarly, only HR Employees considered active employees as of the ODS refresh date are included. Many of these assumptions can be customized and changed if necessary by IT, but can have consequences for the assumptions made by the Ellucian-delivered sample reports.

The Universes are designed by Ellucian assuming you have set up and are using Colleague the way it was intended. If not, some data elements may not be populated as expected or some report samples may not filter or display as expected. As a report consumer, it is essential to understand the data available, how it relates to other data, and what impact data entry decisions in Colleague have on how the data is represented in the Universe.

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ADDITIONAL REFERENCES

Independent Materials

SAP BusinessObjects BI 4.0: The Complete Reference 3/E, Cindi Howson

SAP BusinessObjects Web Intelligence: The Comprehensive Guide (2nd Edition), Jim Brogden

BusinessObjects Designer XI v3, Robert Schmidt

SAP Documentation

SAP BusinessObjects Web Intelligence User's Guide 4.0

Check here for document updates.

Acronyms and Glossary

BI – Business Intelligence: a term used to describe all the activities and technologies involved in providing query and reporting and analysis to answer the business questions of an organization

Class – a folder in a Universe that is a collection of related data elements

Hierarchy – an order of precedence of data elements that implies a drill path such as Year → Month → Week → Day

Measure – a predefined calculation of a Universe class, such as a sum, average, etc.

Object – a data element in a Universe class

ODS – Operational Data Store: a database containing data from one or more source systems organized in a way to support reporting and analysis

Universe(s) – file(s) in the BusinessObjects platform that provide a representation of data for reporting that hides the technical complexities behind the scenes and makes reporting easier