Web Intelligence Reporting Basics

HTML Version

Appropriate Use and Security of Confidential and Sensitive Information

Due to the integrated nature of the various Human Resources, Finance and Student modules in Banner and the reporting information in the Enterprise Data Warehouse (EDW), you may have access to information beyond what you need to perform your assigned duties. Your access to Banner and the EDW has been granted based on business need, and it is your responsibility to ensure the information you access is used appropriately.

Here are some reminders of good data stewardship to help you carry out your responsibility:

- **Do not share your passwords** or store them in an unsecured manner. Do not leave your workstation unattended while logged on to administrative information systems. You are responsible for any activity that occurs using your logon id.
- **Do not share confidential and sensitive information** with anyone, including colleagues, unless there is a business reason.
- **Retrieve printed reports quickly**, and do not leave the reports lying around in plain view.
- **Secure reports containing confidential and sensitive information** (e.g., FERPA, EEO or HIPAA protected data).
- **Always use the Confidentiality Indicator object/column** when reporting on Student information for public distribution to ensure that FERPA sensitive information is excluded from your report where appropriate.
- **Do not include UIN or SSN** whenever possible. This practice will mitigate the risk that sensitive personal information may be improperly distributed.
- **Shred the reports in a timely manner** if they contain confidential or sensitive information.
- **Be aware of Human Subjects data confidentiality**. Specifically, Finance Accounts Payable data contains confidential information on payments to human subjects along with information on research topics. Retrieve reports quickly, shred unneeded paper reports and only provide appropriate access to the information.
- Please note that the **security state** of the data 'travels' with the data. That is, data that is highly restricted in a system like Banner or the Data Warehouse is just as confidential when it is used downstream in a report, backend database, or local application. You are responsible for maintaining the confidentiality of data in reports or systems you create and manage.

Table of Contents

About this Course

Objective

The objective of this course is to teach the basic functionality of the Web Intelligence editor for creating reports from the EDW.

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. The students will then do exercises on their own.

Training Data

This course is designed to teach users how to use the Web Intelligence editor to create reports, not the data. We will use the **EDW - STU - Course Schedule** universe for all the examples. This universe lists current and past course schedules for the three campuses.

Training Accounts

To access the training data, we will login using training accounts. The account usernames are **DSTRAINING01** through **DSTRAINING20**, and they all have the same password: **Foundationofin$ights**

You will be assigned a training account to use during the training.

Chapter 1: Creating a Basic Report

SAP BusinessObjects Products

SAP BusinessObjects is a software suite of report creation, viewing, and distribution tools. BusinessObjects is composed of applications that are accessible through the web or on your desktop computer. The major components that you will interface with are:

- BI Launchpad via the website: EDDIE (Enterprise Data Delivery Information Environment)
- Web Intelligence Rich Client

EDDIE / BI Launchpad

EDDIE / BI Launchpad is a secured web based BusinessObjects Content Management System (CMS) that allows you to create, store, retrieve, view, and print Web Intelligence reports from anywhere you have internet access.

The University provides a number of pre-developed, standard reports which are accessed through EDDIE by Folders or Categories. We also store our Solution Library reports in EDDIE's Categories section. The Solution Library reports serve as templates for commonly needed reports.

Web Intelligence

Web Intelligence is an easy to use report editor which allows you to create, edit, and analyze both simple and complex business intelligence reports. There are two versions of Web Intelligence. An HTML version is accessed through the EDDIE website and is run using a web browser. The Web Intelligence Rich Client is a desktop application which can be accessed through EDDIE or from your computer desktop. This training class will focus on the Web Intelligence Rich Client, but you are free to experiment with the online HTML version.

The major difference between the two versions is that Web Intelligence Rich Client allows you to save your documents locally and on network drives. The HTML version can only save reports to your Personal Folder in EDDIE. The Web Intelligence Rich Client is a PC-based application and cannot be installed on MAC computers. Since the HTML version is web-based, it can be used from MAC computers.

Terminology

The following are terms that will be used in this course:

Document

A document is the file created by Web Intelligence. A document can contain multiple queries and multiple reports.

Query

A query is a request for data from a data source. It defines the data content of your report. The act of building a query refers to selecting the data to include in your report and then applying filters to limit the data returned.

Data Provider

The data returned by running a query is stored in the document as a data provider. There can be multiple data providers in one document and one data provider can be used in multiple reports.

Report

A report is any formatted display of data from the data providers. A report can include one or more blocks. There can be multiple reports in one document. They are represented as tabs at the top of the screen.

Block

A block is a collection of data in a particular format. In Web Intelligence, the block types are table, crosstab, and chart. Multiple blocks can appear in a single report and each block can display data from one or more data providers.
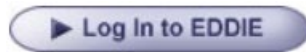
Universe

A universe is a database interface which maps objects to fields in the database. The universe simplifies report creation by eliminating the need to know the database structure. It also provides automatic joins between database tables based on key values.

Logging into Web Intelligence from EDDIE

Web Intelligence Rich Client must first be installed on your computer before it can be used (see Appendix C for installation instructions). Once installed, the editor must be started the first time from the EDDIE website. This downloads a key to your computer. After the key is downloaded, the editor can be started from your computer desktop.
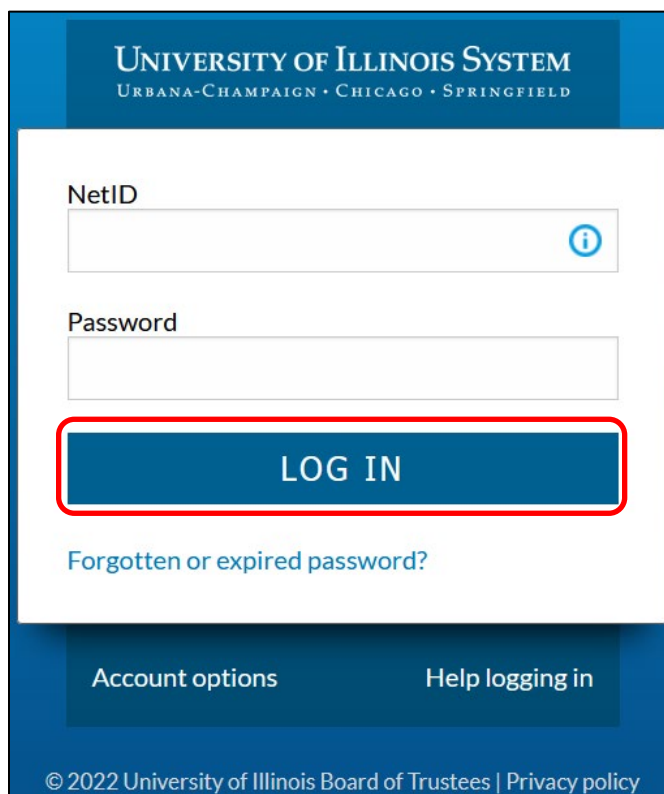
1. Open the EDDIE login page: https://eddie.ds.uillinois.edu/
2. Click the Log in to EDDIE button.

> ► Log In to EDDIE

3. Enter the **Training Account username and password** and click the **LOG IN** button.

    Training Account username: **DSTRAINING _ _**
    Training Account password: **Foundationofin$ights**

    Note: When you log in as yourself, you will use your University NetID and Password to access EDDIE.

Note: you will be prompted to complete a DUO 2-factor Authentication challenge before being logged into EDDIE. For this training, please choose 'Send me a push' option, which will go to the instructor's device to accept the challenge.

The EDDIE Home Screen is displayed:
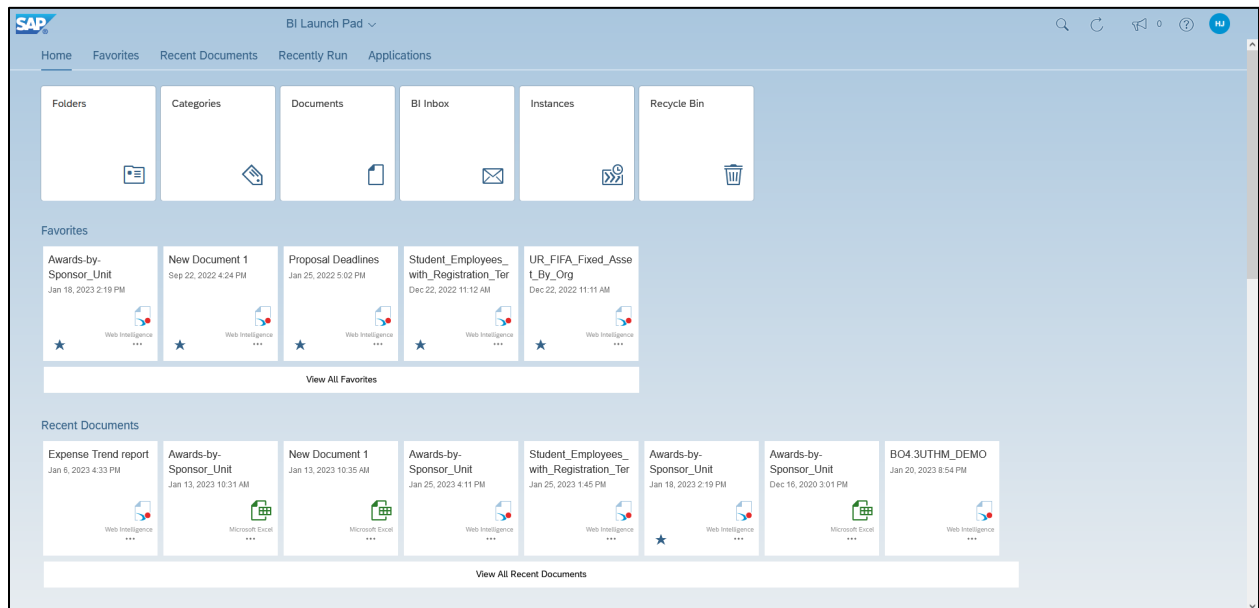
Web Intelligence Settings

There are two different versions of the Web Intelligence editor. One is web-based (HTML version), and one is desktop-based (Rich Client version). You can try the different versions and use whichever you prefer. Since we will be using the HTML report editor, you should verify that the preferences are set correctly.
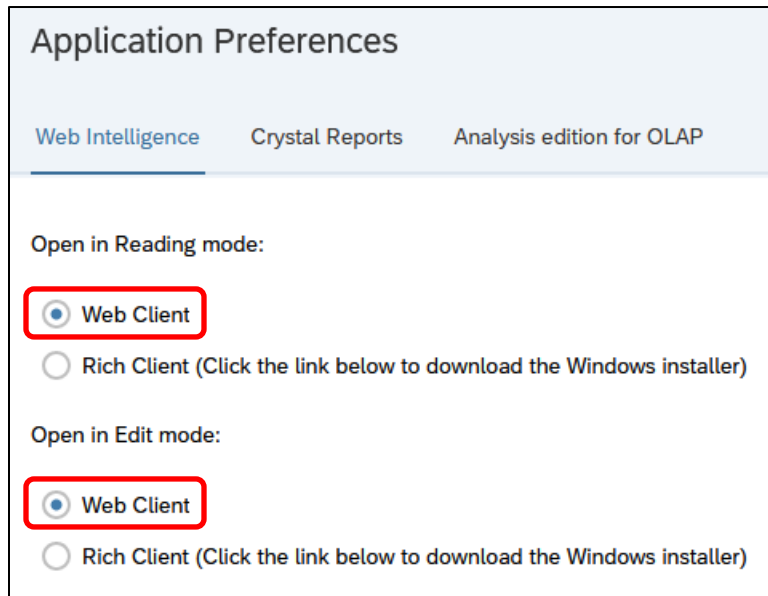
1. Click the **blue circle** with your last and middle initials in the upper right corner and click **Settings**.
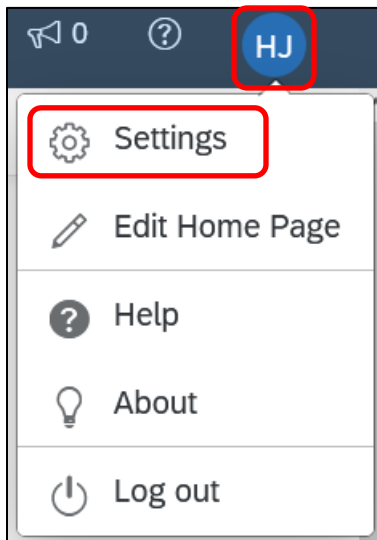
2. Click **Application Preferences**.
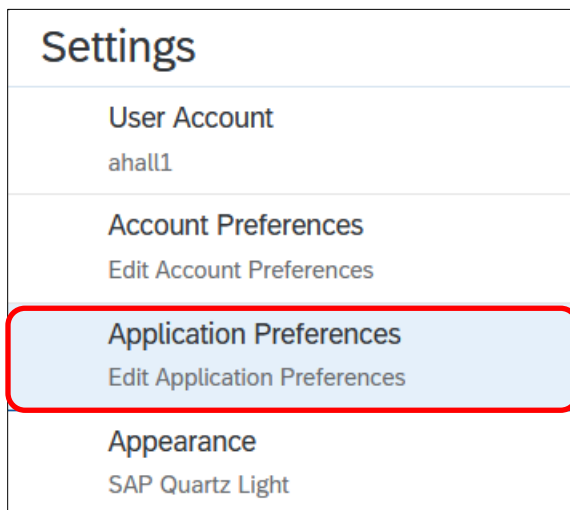
3. Make sure the **Web Client** options are selected under **Open in Reading mode** and **Open in Edit mode**.

Application Preferences

Web Intelligence   Crystal Reports   Analysis edition for OLAP

Open in Reading mode:

⦿ Web Client

○ Rich Client (Click the link below to download the Windows installer)

Open in Edit mode:

⦿ Web Client

○ Rich Client (Click the link below to download the Windows installer)

4. Click **Save** at the bottom of the screen to save the changes.

Save   Cancel

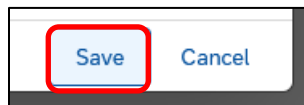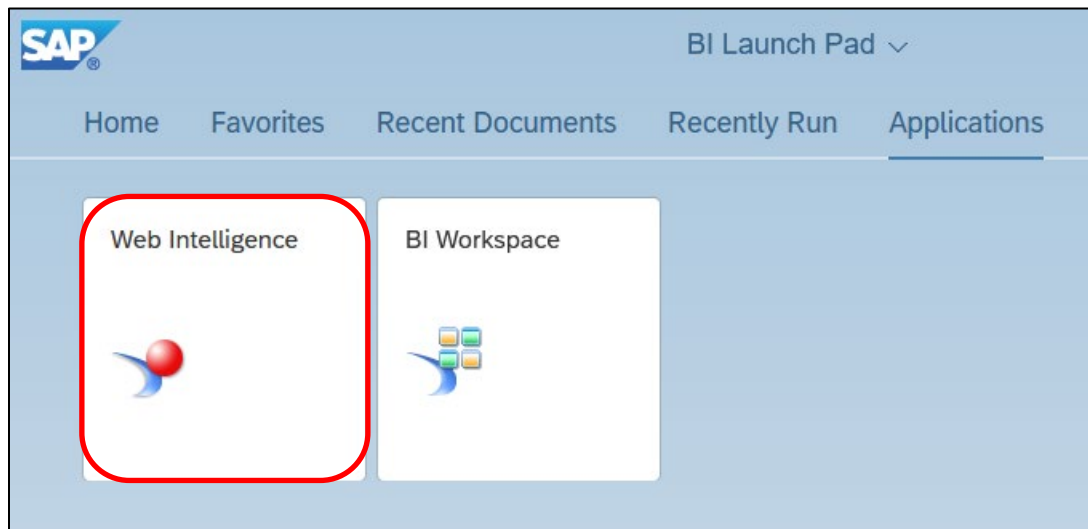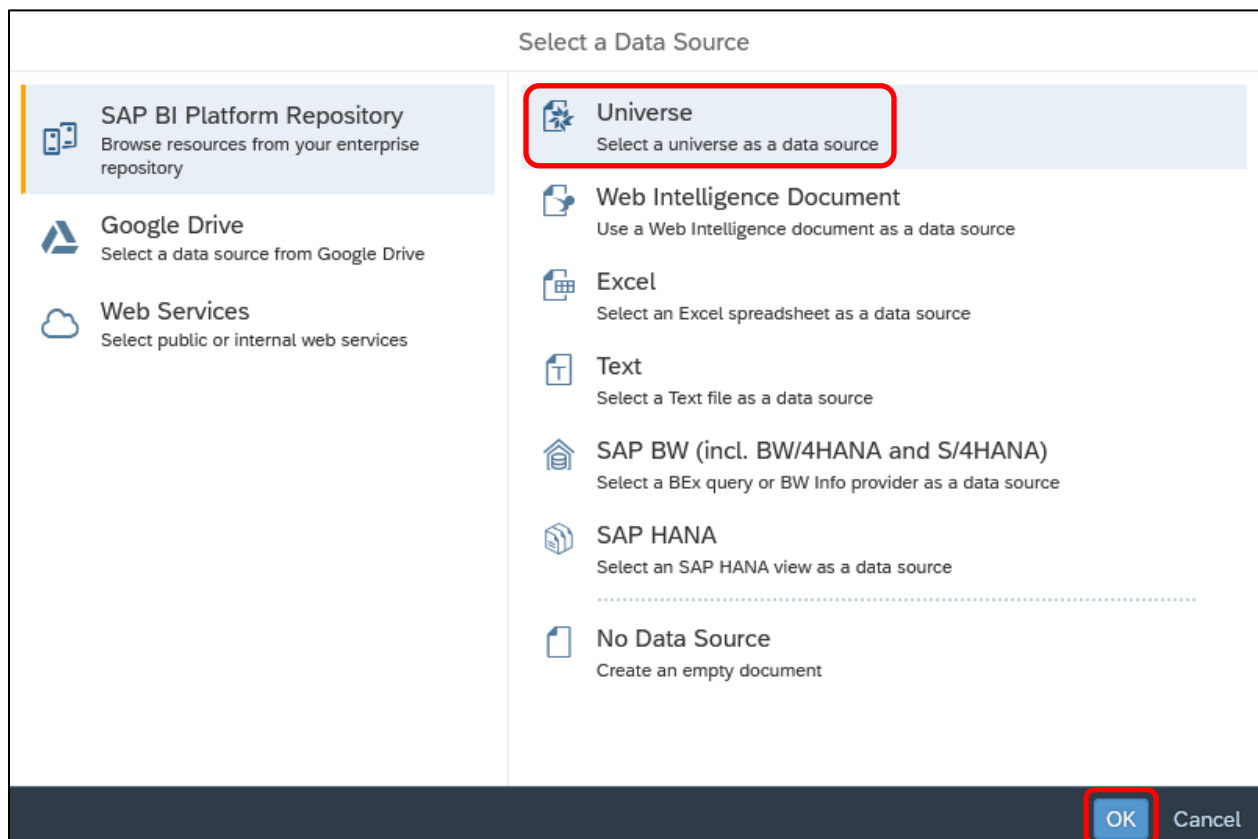## Creating a New Document

1. Click the **Web Intelligence tile** under **Applications**.

2. Select **Universe** on the Select a Data Source window and click **OK**.

Note: A Universe is a database interface which maps objects to fields in the database. The universe simplifies report creation by eliminating the need to know the database structure. It also provides automatic joins between database tables based on key values.

3. Select the **EDW – STU – Course Schedule** universe and click **OK**.
   The EDW – STU – Course Schedule universe is located in the Cat Sched Universes folder, or search by name using the search bar at the top.
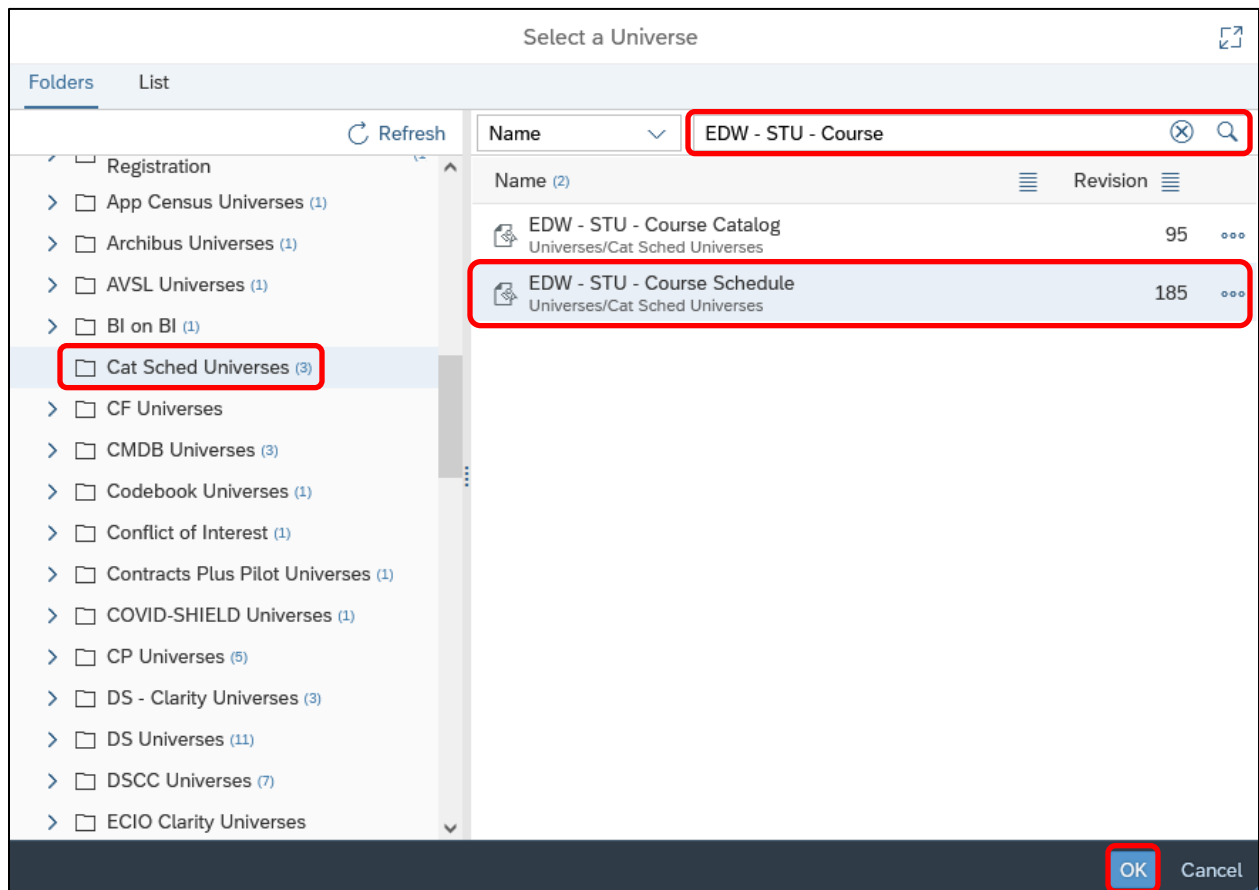
Note: the list of folders and universes visible is determined by the permissions set on the user's account. For example, if a user only has access to Financial data in the EDW, they will not see these student-related universes.

The **Query Panel** is displayed:
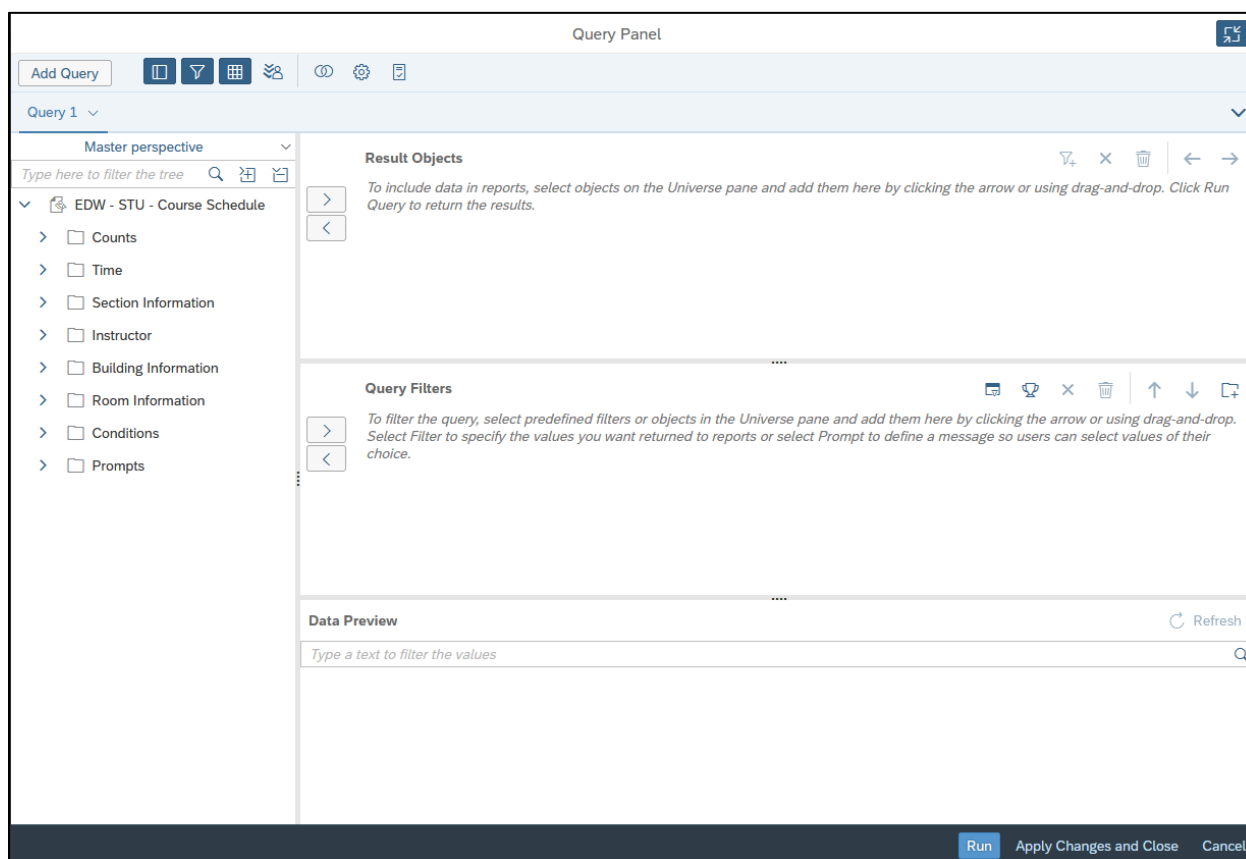

Query Panel

The Query Panel window is used to create the query that retrieves data from the database. The objects and filters in the query window determine what data is included in the query results. The data returned when the query is run is called a data provider, which is stored in the document and becomes the source of the data displayed in the report.

Sizing the window

Click and hold the Query Panel top border to move the window. Drag the bottom right corner to enlarge the window. Resize the panels by dragging the dots between panes.

Query window panels

- **Universe outline**: This panel displays the objects and filters contained in the universe. They are organized by subject in folders called **Classes**. A class can be expanded or collapsed by clicking the ⟩ or ⌄ to the left of the folder. You can also expand/collapse all using the buttons located at the top of this panel.
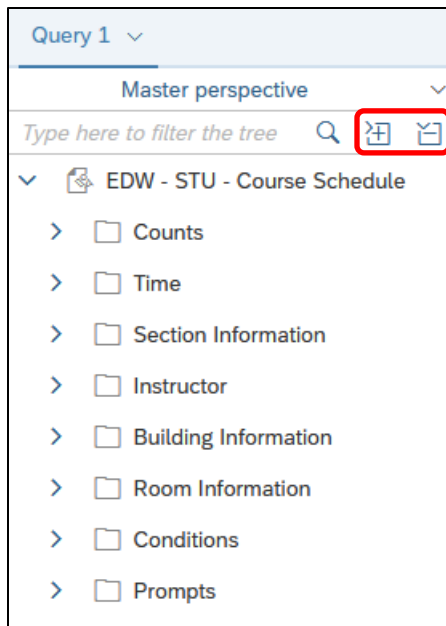
- **Result Objects**: This panel holds the objects to be included in the report. When building a new query, each object added to the Result Objects panel is represented as a column in the initial report table.
- **Query Filters**: This panel contains selection criteria for the query. The query filters determine which rows from the database are included in the query results.
- **Data Preview**: Click **Refresh** to display a preview of the data that would be returned if the query was run.

Query Panel toolbar

From left to right…

- **Add Query**: opens the **Select a Data Source window** to select a new data source for an additional query
- **Show/hide data outline panel**: shows/hides the **Result Objects panel**
- **Show/hide filters panel**: shows/hides the **Query Filters panel**
- **Show/hide Data Preview panel**: shows/hides the **Data Preview panel**
- **Show/hide Scope of Analysis panel**: shows/hides the **Scope of Analysis panel**
- **Add a combined Query**: two queries from the same data source. Join results as a union, intersection, or minus.

- **Show query properties**: opens the **Query Properties window**. Allows users to rename queries, set limits on rows/columns, adjust prompt order, etc.

Query Properties

Name	Query 1
Universe	EDW - STU - Course Schedule

Limits

- ☐ Max rows retrieved   —   5000   +
- ☐ Max retrieval time (s)   —   600   +

Sample

- ☐ Sample result set   —   500   +
- ☐ Fixed

Data

- ☑ Refreshable
- ☑ Retrieve duplicate rows
- ☐ Retrieve empty rows
- ☐ Delete trailing blanks

Security

- ☑ Allow other users to edit all queries

Prompt Order

↑ ↓

Context

- ☑ Reset contexts on refresh

Clear Contexts

OK   Cancel

- **View query script**: shows the SQL statement produced by the query.

Object Types

A universe is a collection of objects, which represent fields in a database table. Object names are everyday terms which are easier to understand than the cryptic field names in the database.

Classes ☐ are logical groupings of objects to make objects easier to find. For example, all address fields might be grouped together in one class.

- **Dimension**
  - Dimension objects usually contain text or dates, such as *Name*, *UIN*, or *Application Date*. However, some dimension objects may contain numeric data, such as *Section Enrollment*.
  - Dimension objects represent the basic structure of the data.
- **Detail**
  - A detail object is always associated with a dimension object in a 1:1 relationship. For example, *Address Type* **PR** is always associated with *Address Description* **Permanent**, and vice versa.

- A detail object provides additional information about the dimension object. This additional information is typically descriptions, names, etc., of the codes being represented. For example, *College Name* is the detail object associated with the *College Code* dimension object.

- **Measure**
  - Measure objects are numeric values that are the result of calculations.
  - A measure's value changes depending on the report context. For example, values displayed for a *Salary* object differ if the report is for one pay period or for one year.

- **Predefined Query Filters**
  - Predefined query filters are created for conditions that are complicated to create and/or commonly used.
  - Predefined query filters save time because they can simply be added rather than having to create the filter yourself.

Finding Objects

Most of the universes you will be working with contain a large number of classes and objects, which can make finding the objects difficult. You can look for objects by subject by expanding the related class folders, or you can use the Filter option to search for objects that contain certain words or phrases.
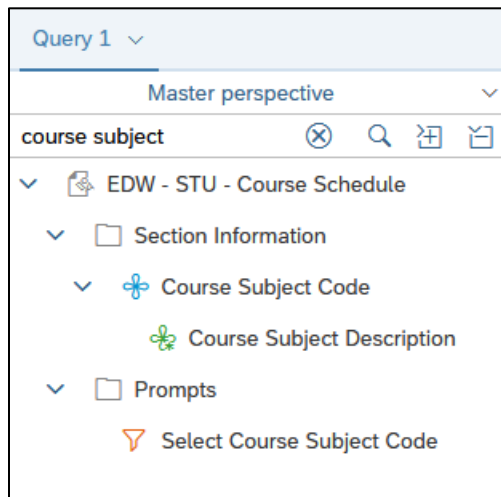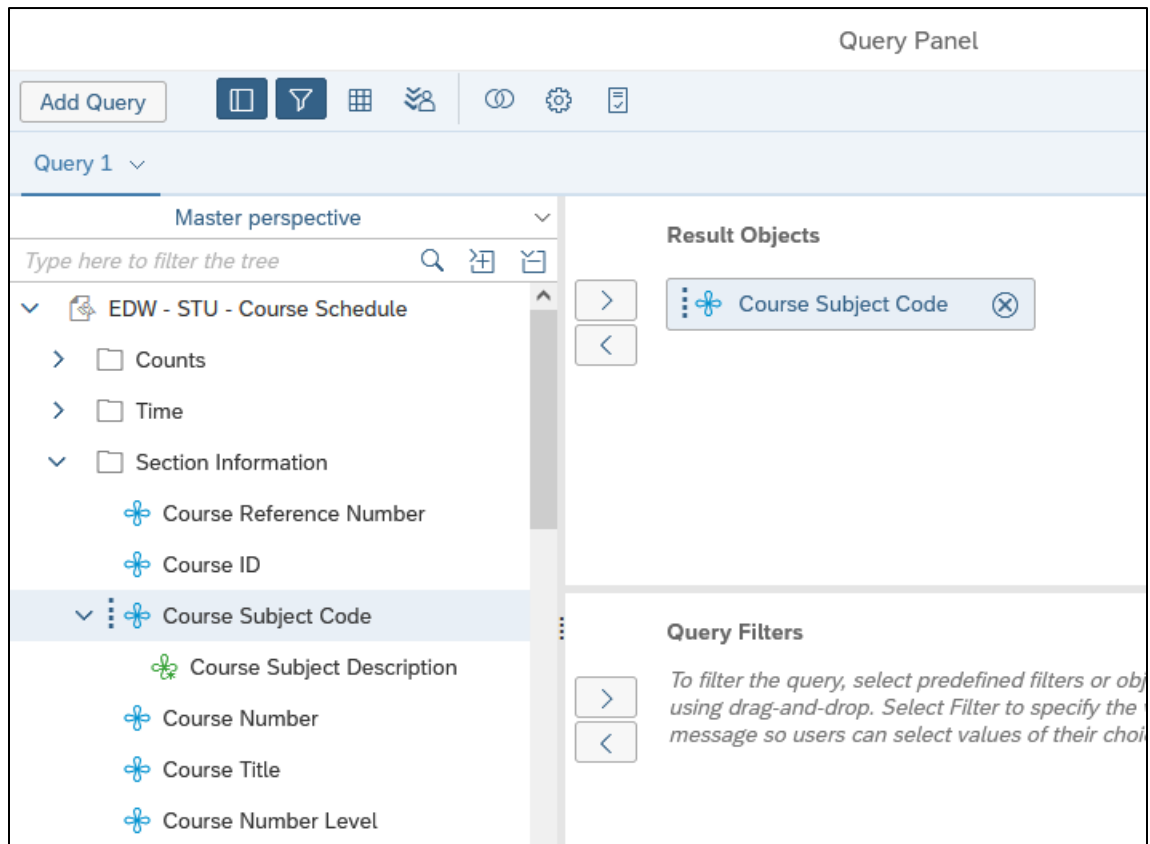

Adding Objects to the Result Objects panel

Once you locate the object you are looking for, there are three ways to add the object to the Result Objects panel:

- **Double-click** the object in the Universe outline.
- **Drag and drop** the object from the Universe outline into the Result Objects panel.

- Select the object in the Universe outline and click [>] in the Result Objects panel.

We will now create a simple query to pull records for Communications courses offered at UIUC during the Fall 2019 semester.

1. Expand the **Section Information** folder.
2. Double-click the **Course Subject Code** object to add it to the **Result Objects** panel.


3. Locate the **Course Number** object.
4. Drag the **Course Number** object from the Universe outline to the right of the Course Subject Code object in the Result Objects panel. Note the vertical blue bar showing the position of the object to be added.
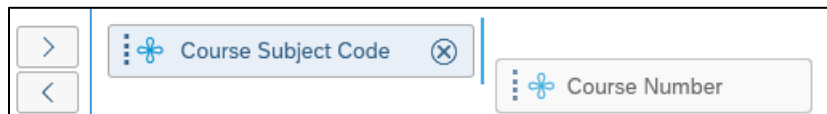
5. Locate the **Section Number** object and click ⟩ in the Result Objects panel to add it.

6. Use the Filter box and 🔍 to find and add the **Section Enrollment** object to the Result Objects panel.

7. Find and add the **Section Building Name** object to the Result Objects panel. Note that the Section Building Code object also gets added.

8. Find and add the **Section Room Number** object to the Result Objects panel.

9. Select the **Section Building Code** object in the Result Objects panel and click the ⊗ to remove it. Your Result Objects panel should look like below.
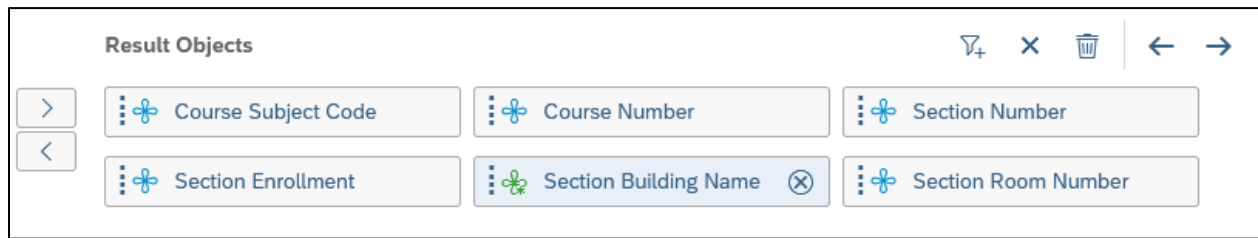
Adding Objects to the Query Filters panel

Query filters add conditions to your query that limit the data returned from the database. Filters are vital when running queries against a large database. There are two types of query filters: **predefined** and **user defined**.

Query filters allow you to:

- Retrieve only the data you need to answer a specific business question,
- Hide the data you don't want specific users to see when they access the document, and
- Minimize the quantity of data returned to the document to optimize performance.

Predefined query filters are created for conditions that are complicated to create and/or commonly used. Predefined query filters save time because they can just be added rather than having to create the filter yourself.

As these filters are predefined, they can be found among the objects in the Universe outline, often in a class called **Conditions**.

Once you locate the filter ▽ you are looking for, there are two ways to add the object to the Query Filters panel:
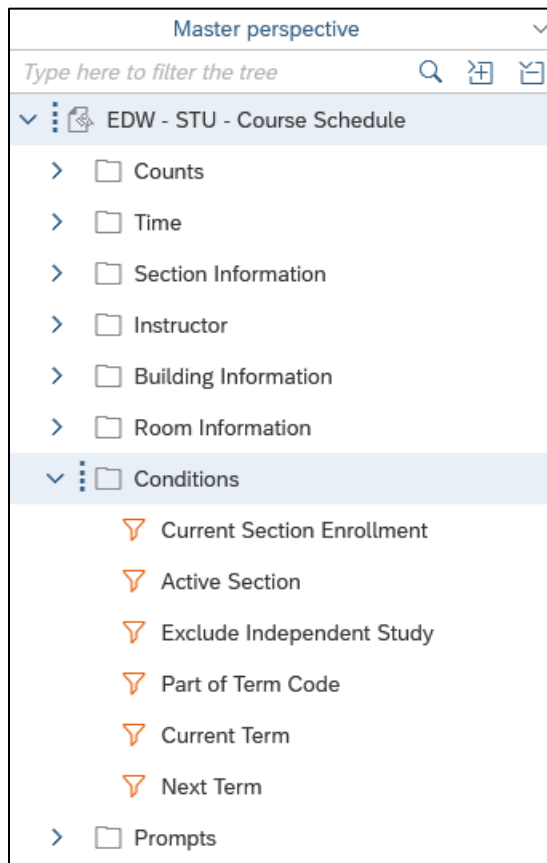
- **Double-click** the filter in the Universe outline.
- **Drag and drop** the filter from the Universe outline into the Query Filters panel.

- Select the filter in the Universe outline and click ⟩ in the Query Filters panel.

We will now add some predefined query filters to our simple query.

1. **Clear the Filter box** by clicking the ⊗
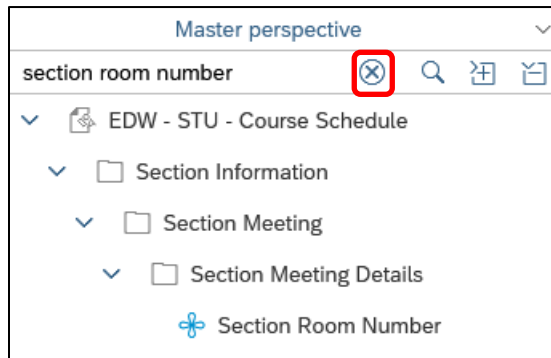
2. Click the **Collapse All** icon ⊟ to collapse the entire universe tree, then **expand the universe row** by clicking ❯. Next, **expand the Conditions** class so the Universe outline looks like below.

3. **Double-click** the **Current Section Enrollment** filter to add it to the Query Filters panel.
   This filter limits the results to only the most recent value for the enrollment of a section.

4. Expand the **Prompts** class.
   A prompt is a filter in the form of a question. Web Intelligence asks these questions to the user running the query, at the time the query is being run.

5. **Drag** the **Select Term Code** prompt from the Universe outline and drop it below the Current Section Enrollment filter in the Query Filter panel. Note the horizontal blue bar showing the position of the filter to be added.

6. Select the **Select Course Subject Code** prompt and click [>] in the Query Filters panel to add it. Your Query Filters panel should look like below.
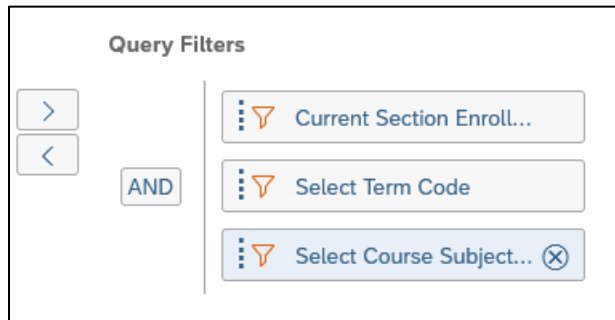
Running the Query and Entering Prompt Values

1. Click the **Run** button in the bottom right corner of the Query Panel.
   Since our query contains prompts, the **Prompts** window is displayed:

2. By default, the first prompt – Select 6 digit Term Code, in this case – is selected on the left, and a list of values for the Term Code object is generated on the right.

   Note that the first time the list of values for an object is displayed, all values are retrieved from the database and stored in a local file on your computer, which can take some time. However, the next time you see the same list, the values will be read more quickly from the local file.
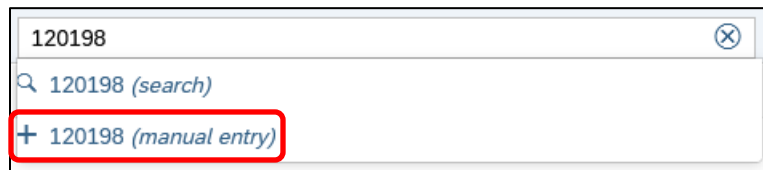
   There are three methods for selecting a prompt value:
   - Scroll through and select the value from the list of values generated,
   - Search for values in the list by typing something into the text box and selecting the first option, or
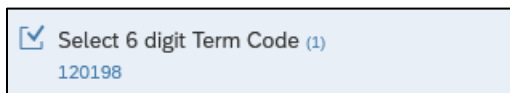
   - Manually enter a value into the text box and select the second option.

   Note that this method can result in no results being returned if the value entered does not exactly match a value for that object in the database.

3. Select **120198** from the list of values.

4. Select the second prompt – Select Course Subject Code – and allow the list of values to populate.
5. Type **CMN** into the search box and select the first option. When the value is displayed in the list, select it.
   By answering both mandatory prompts, Web Intelligence will now allow us to run the query.
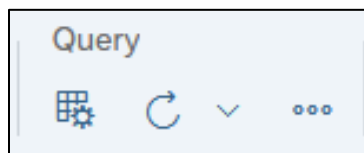6. Click [Run] in the bottom right corner of the window to run the query.
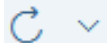
Report Design Window

Once your query has run, the report will be displayed in the Report Design window. This window has a toolbar across the top, a main Report panel, and two panels on the right that contain the various features available in Web Intelligence.
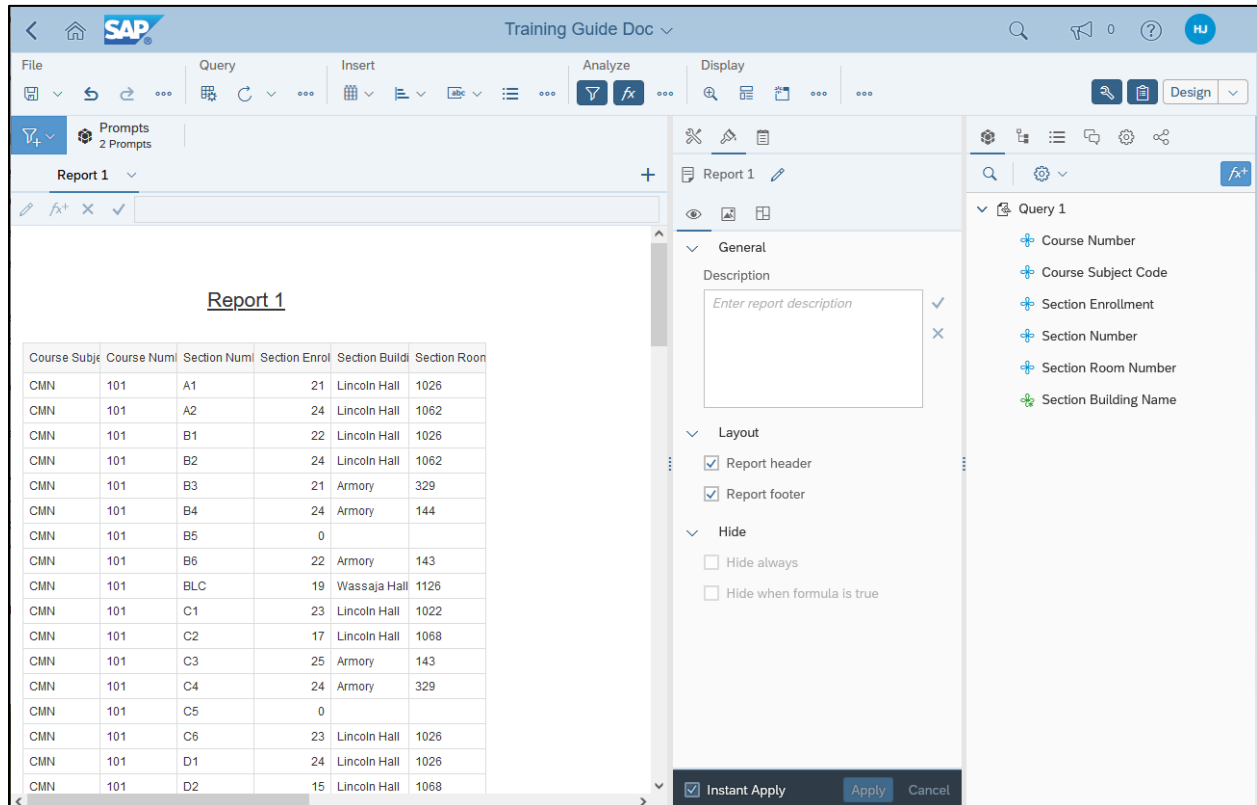
Edit Query and Refresh Data

Edit Query - Opens the Query Panel to make changes to the query.

Refresh Data - Refreshes the report data and/or changes prompt values.

Page Navigation

By default, Web Intelligence paginates results every 100 rows. The vertical and horizontal **scroll bars** will allow you to navigate within the visible page.
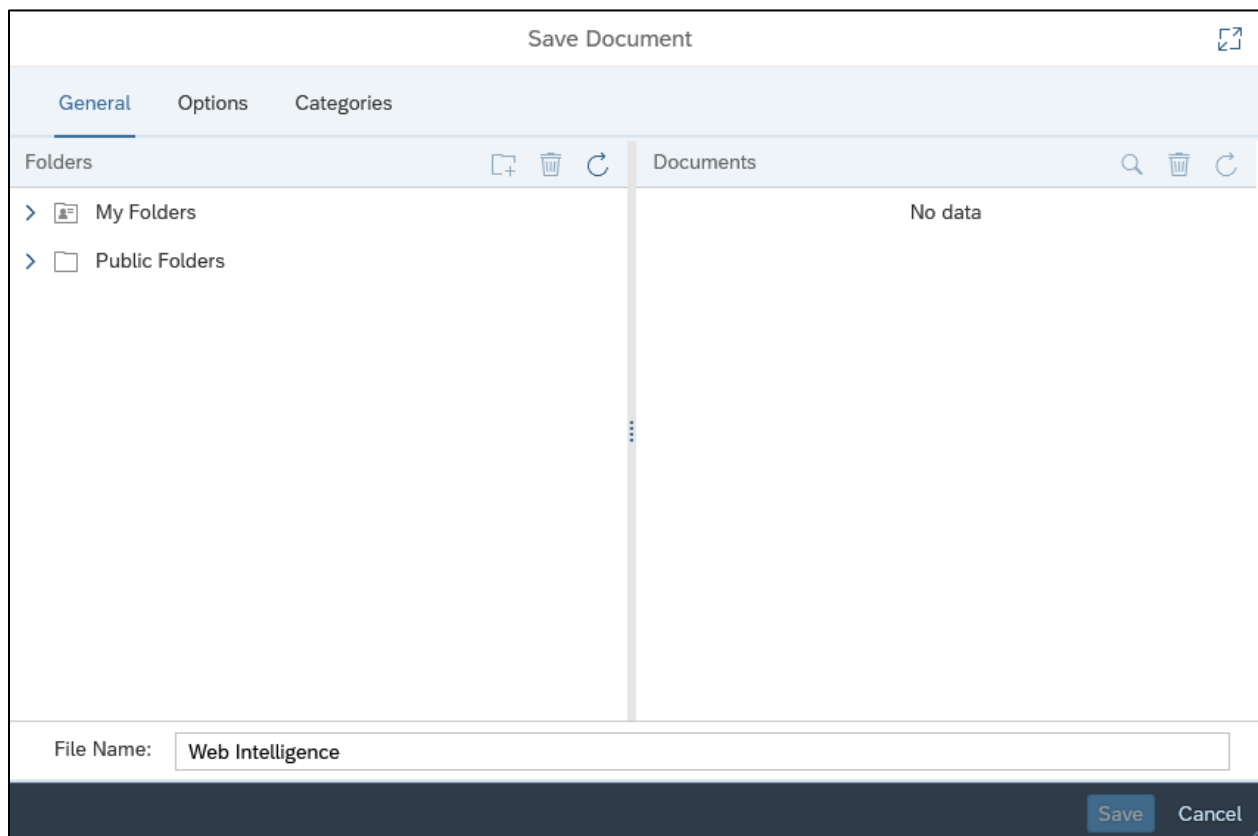
To see all results, you may need to use the **Navigate** section on the toolbar, located at the top of the Report Design window.

Navigate

|< < [1] of 1+ > >|

Saving a Web Intelligence Document

Web Intelligence autosaves documents to the ~WebIntelligence folder every 10 minutes, 11and they will be held in that folder for 24 hours. To be on the safe side, we recommend users manually save their work often, as Web Intelligence will automatically time users out of their session after 60 minutes of inactivity.

1. In the **File** section, click **Save** 💾 ⌄ and select **Save As**
2. The **Save Document** window is displayed:

Save Document

General   Options   Categories

Folders		Documents	
> My Folders		No data	
> Public Folders			

File Name: Web Intelligence

Save   Cancel

3. Click **My Folders**.
4. Name the document by typing **Section Enrollment – [Month] [Year]** in the File Name box
5. The **Options** tab allows users to add a description of the document and set the document to automatically refresh the data providers upon opening the document.
6. Click **Save** in the bottom right corner of the window to save the document.

Exercise 1: Creating a Basic Report

Review

1. A _____ is an interface which maps objects to data in a database.

2. What are the three types of objects?

3. What are the two methods of adding objects to the Result Objects panel?

4. Describe the icon for Predefined query filters.

Exercise

1. Create a new document using the **DM – STU – Section Capacity** universe.

2. Display the following objects in a vertical table:

   - **Term Code**

   - **Course Subject Code**

   - **Course Number**

   - **Course ID**

   - **Course Title**

   - **Section Number**

   - **Section Enrollment**

   - **Section Avail Seats**

3. Add the predefined filters:

   - **Active and Gradable**

   - **Prompt for Term Code**

   - **Prompt for Course Subject Code**

4. Run the query and enter these values for the prompts:

   - Term code: **120191**

   - Course Subject code: **ENGL**

Top of the table should look like below:

Term Code	Course Subje	Course Numl	Course ID	Course Title	Section Numl	Section Enrol	Section Avail
120191	ENGL	101	1002753	Intro to Poetry	Q	17	15
120191	ENGL	103	1002755	Intro to Fiction	C	13	19
120191	ENGL	104	1002756	Intro to Film	AE1	8	24
120191	ENGL	104	1002756	Intro to Film	AE3	10	22
120191	ENGL	104	1002756	Intro to Film	AE4	8	24
120191	ENGL	104	1002756	Intro to Film	ZJU	14	1
120191	ENGL	109	1007952	Intro to Fiction	B	20	4
120191	ENGL	109	1007952	Intro to Fiction	C	21	2

5. Save the document as **Available Seats**. If a document with this name already exits, overwrite it.

Chapter 2: Editing an Existing Query / User Defined Query Filters

Adding Objects to an Existing Query

Most reports require changes to the data after the query is run for the first time, such as removing or adding objects and adjusting query filters.

1. Click **Edit Query** in the File section of the toolbar to display the Query Panel.
2. Expand the **Instructor** class.
3. Find the **Instructor Last Name** object and drag and drop it to the **Result Objects** panel.
4. Use the Filter box to find **Meeting Days** and **Start Time – End Time** in the Universe outline and add them to the **Result Objects** panel.
    Your Result Objects panel should look like below.
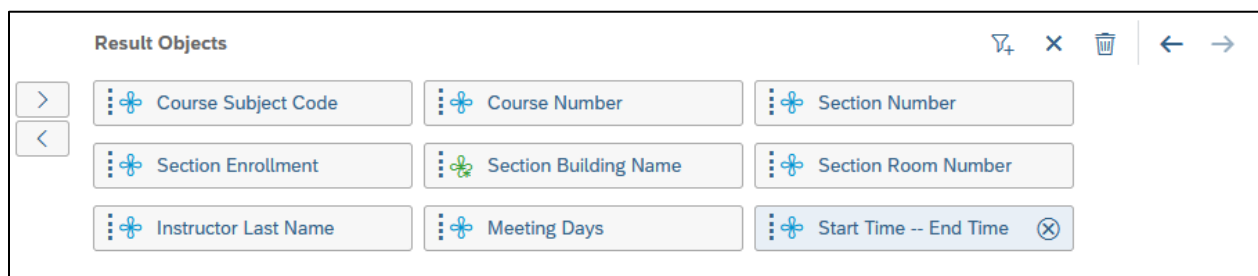
5. Click **Run** in the bottom right corner of the window to run the query.

6. When the Prompts window displays, click **Run** to keep the retained prompt values and run the query.

7. The Report Design window is displayed. Note that the new objects we added to the Result Objects panel did not automatically get added to the existing table, but they are visible in the **Document Objects** section in the **Main Panel**.
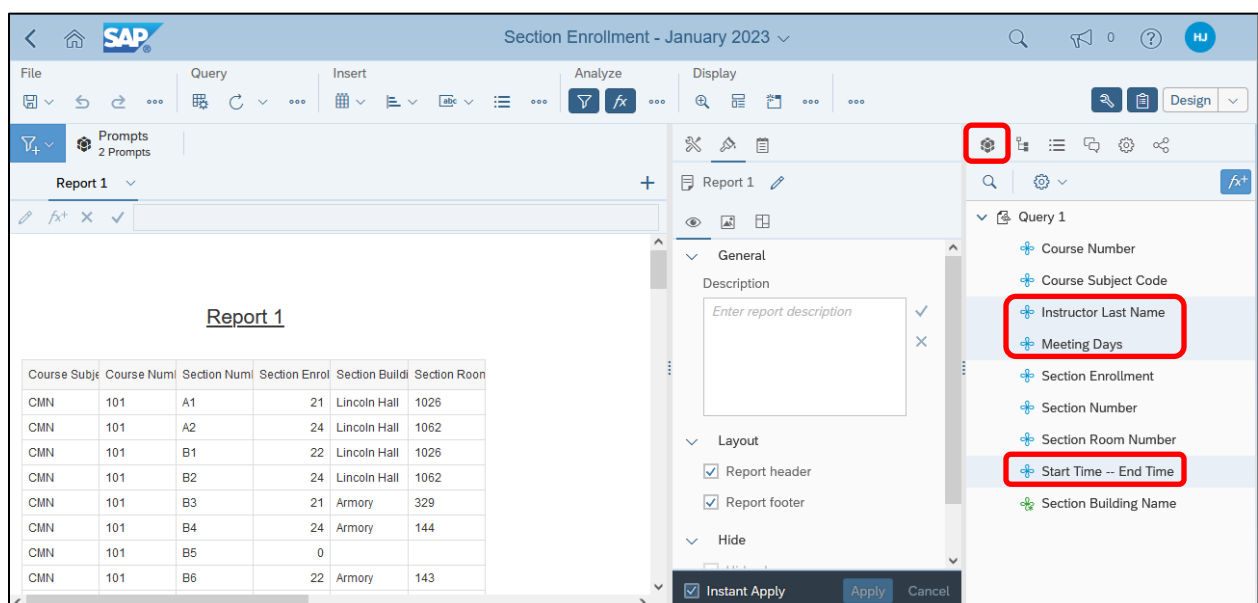
Adding a New Object to a Table

The Report Design window is comprised of four main components:

- Toolbar
- Reports panel
- Format panel
- Main panel
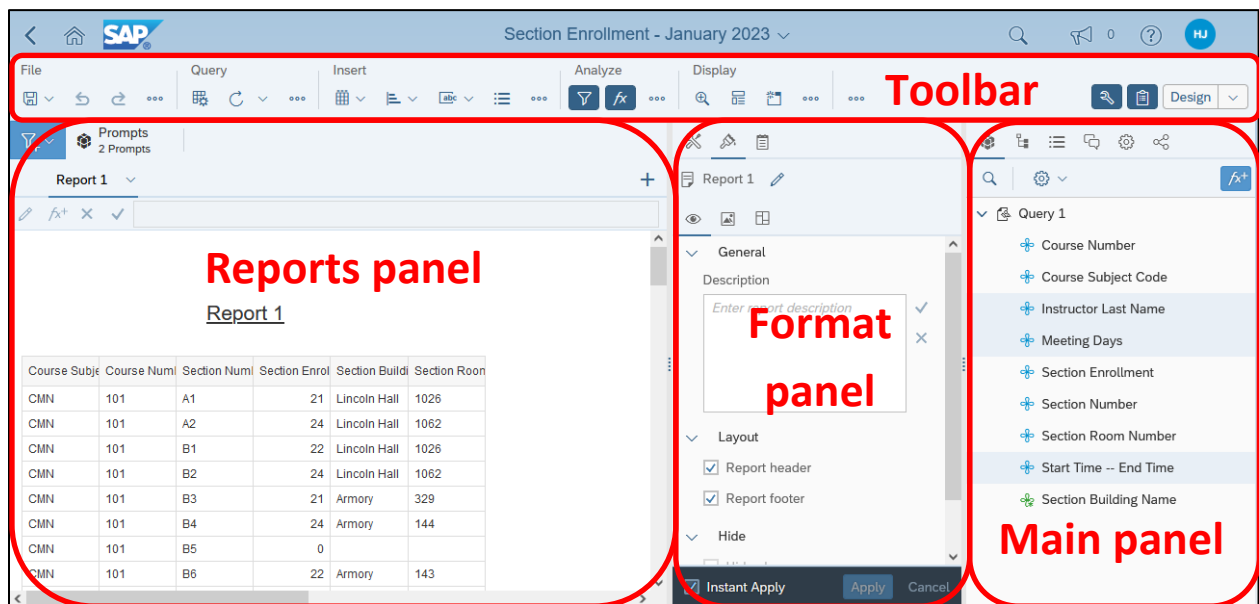
Within the **Reports panel**, there are many possible elements that can be selected, for example, the block of data (a vertical table in our case), a column or cell within the block, the report header, or the report itself.

The options available in the **Format panel** are dependent on which element is selected.

We will now add the objects that we just added to the Result Objects panel.

1. Click inside the vertical table in the **Report panel** so the entire outer border of the table is highlighted blue.
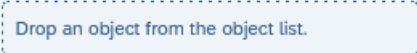
2. In the **Format panel**, select **Report Element Data** ⚒ in the top row of icons and **Feeding panel** 📊 in the bottom row of icons.
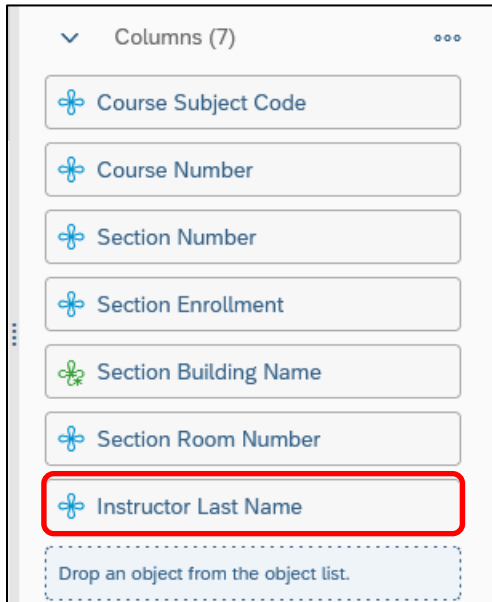

Note that the bottom row of icons is dependent on which icon is selected in the top row.

3. You should now see the list of objects that are currently in our table under **Data Assignment** in the **Format panel**, and next to that, in the **Main panel** is the **Document Object list**, which includes all objects being pulled by the query.
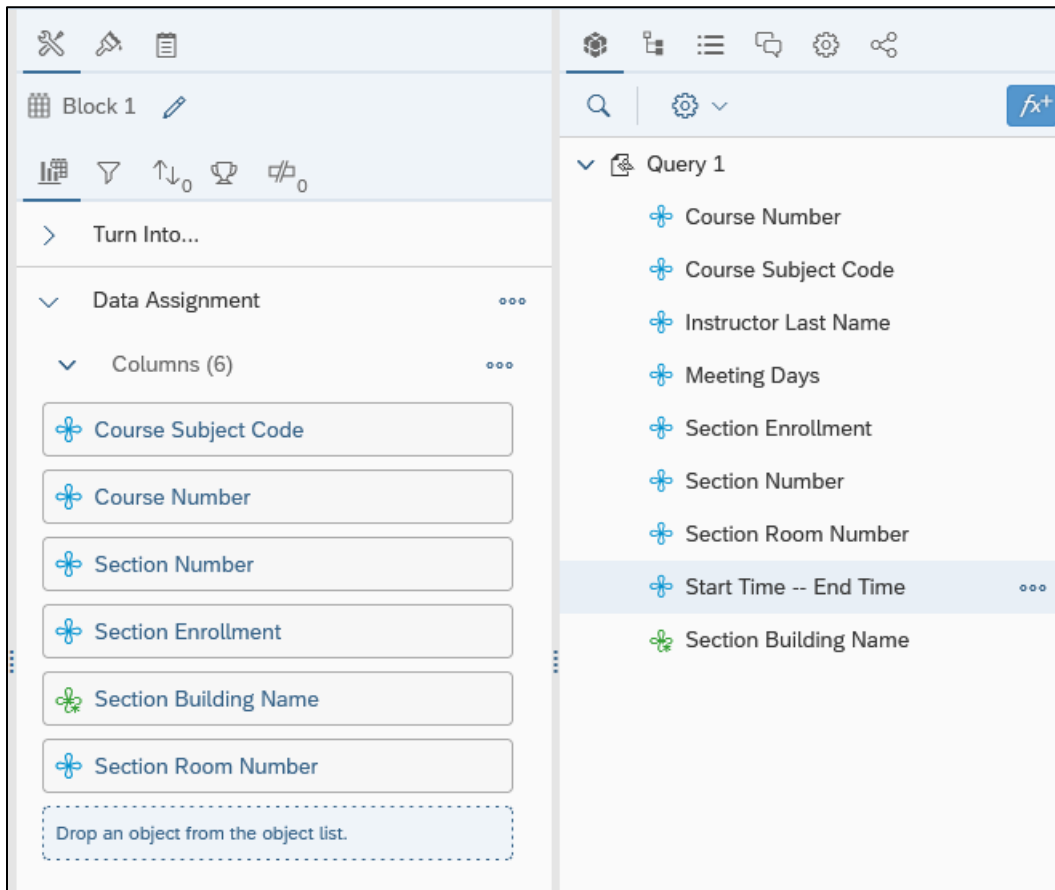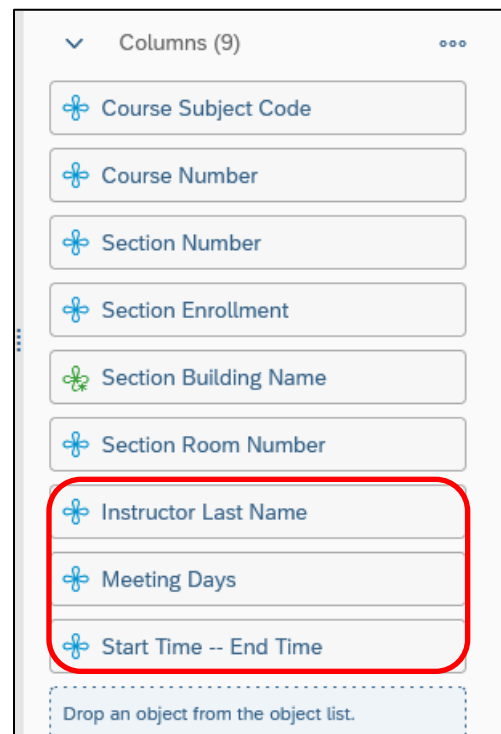
4. To move objects into the table, we will drag them from the **Document Object list** in the **Main panel** to [Drop an object from the object list.] at the bottom of the **Data Assignment** section in the **Format panel**. Drag the **Instructor Last Name** Object into the space at the bottom of the **Data Assignment** section in the **Format panel**. Your **Data Assignment** section should now look like below.

5. Go ahead and add the **Meeting Days** and **Start Time – End Date** objects in the same way, so your **Data Assignment** section should look like below, and these three columns should be displayed as the furthest columns to the right in the table in the **Reports panel**.

User Defined Query Filters

As we learned in Chapter 1, filters are added to a query to limit data returned from the database. If there are no predefined filters in the Universe for you to use to get the desired data, you can easily create your own **User Defined Query Filter**. A filter contains three elements:

1. **Object**:   What to compare
2. **Operator**:   How to compare it   [Appendix B](#)
3. **Operand**:   What to compare it to   [Appendix C](#)

We will now add a query filter that will limit our results to only sections with enrollment greater than zero.

1. Click **Edit Query**   in the File section of the toolbar to display the Query Panel*.*
2. **Select** and **drag** the **Section Enrollment** object from the **Result Objects panel** and **drop it below** the predefined query filters already in the **Query Filters panel**.
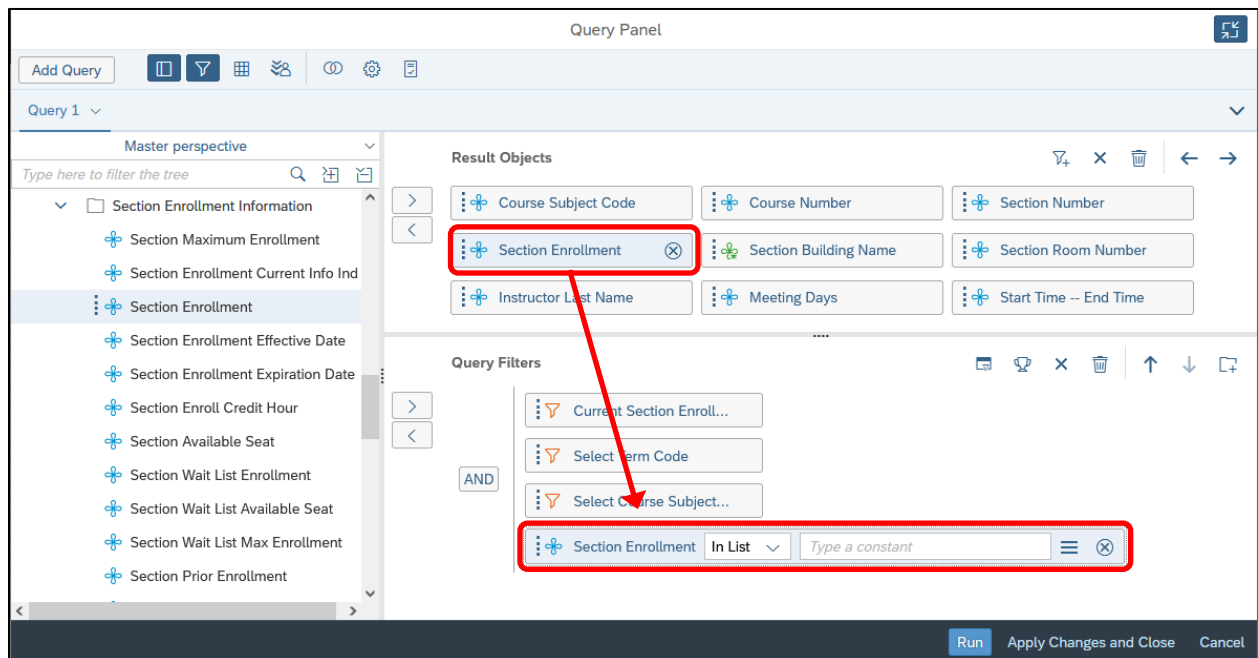
The object remains in the **Result Objects** panel, but also gets added as a query filter. The Section Enrollment filter box:
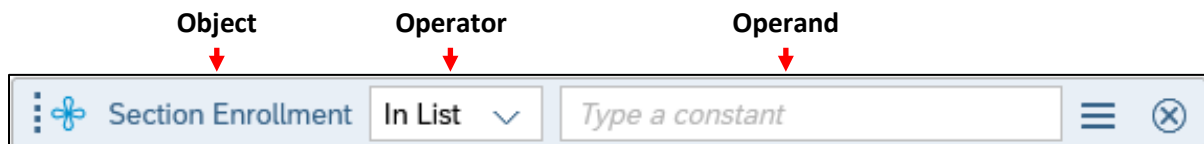
3. Click the **Operator drop-down menu** and select **Greater than** from the list.

   See [Appendix B](#) for more information about Query Filter Operators.

4. Enter **0** in the **Operand box**, where **Type a constant** is written. The Section Enrollment filter box should look like below:

5. Click [Run] to run the query.

6. When the Prompts window displays, click [Run] to keep the retained prompt values and run the query.

   We now only see rows with enrollment greater than zero:

| Course Subje	Course Numl	Section Numl	Section Enrol	Section Buildi	Section Roon	Instructor Las	Meeting Days	Start Time --
CMN	101	A1	21	Lincoln Hall	1026	Gregory	M W F	0800--0850
CMN	101	A2	24	Lincoln Hall	1062	Storie	M W F	0800--0850
CMN	101	B1	22	Lincoln Hall	1026	Gregory	M W F	0900--0950
CMN	101	B2	24	Lincoln Hall	1062	Storie	M W F	0900--0950
CMN	101	B3	21	Armory	329	Okegbe	M W F	0900--0950
CMN	101	B4	24	Armory	144	Merkel	M W F	0900--0950
CMN	101	B6	22	Armory	143	Bunch	M W F	0900--0950
CMN	101	BLC	19	Wassaja Hall	1126	Bishop	M W F	1300--1350
CMN	101	C1	23	Lincoln Hall	1022	Sevilla	M W F	1000--1050
CMN	101	C2	17	Lincoln Hall	1068	Bunch	M W F	1000--1050
CMN	101	C3	25	Armory	143	Gailey	M W F	1000--1050
CMN	101	C4	24	Armory	329	Okegbe	M W F	1000--1050
CMN	101	C6	23	Lincoln Hall	1026	Macswain	M W F	1000--1050
CMN	101	D1	24	Lincoln Hall	1026	Sevilla	M W F	1100--1150
CMN	101	D2	15	Lincoln Hall	1068	Bunch	M W F	1100--1150
CMN	101	D4	23	Armory	144	Cantos	M W F	1100--1150
CMN	101	E1	21	Lincoln Hall	1026	Bunsold	M W F	1200--1250
CMN	101	E2	24	Lincoln Hall	1062	Macswain	M W F	1200--1250
CMN	101	E3	22	Lincoln Hall	1051	Johnson	M W F	1200--1250
CMN	101	E4	24	Armory	145	Cantos	M W F	1200--1250

Grouping Filters Using the AND / OR Operator

Web Intelligence permits the creation of complex query filters in which filters can be grouped together. Complex query filters are created by grouping and connecting filters with logical operators.

- The **AND** operator requires that **all** conditions be true for the row to be included in the query.
- The **OR** operator requires that **only one** of the conditions be true for the row to be returned in our query results.

We will now further refine our query by including sections that have an instructor assigned, even if the enrollment is zero, by using the **OR** operator.

1. Click **Edit Query** ⊞ in the File section of the toolbar to display the Query Panel.

2. Click **Add nested filter** ⊐₊ in the upper right corner of the **Query Filter panel**.
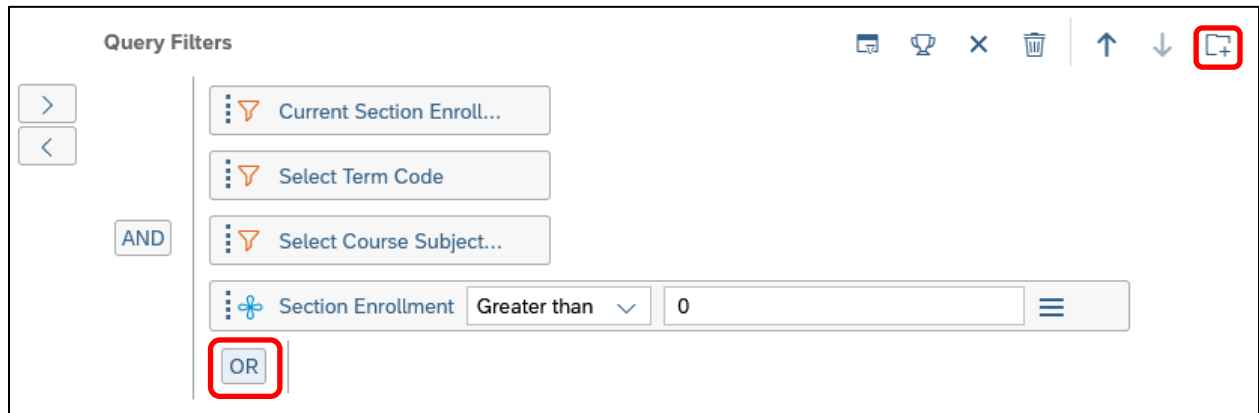

Note: Double-click the operator in the Query Filter panel to toggle it between AND and OR.

3. **Select** and **drag** the **Instructor Last Name** object from the **Result Objects panel** and **drop it to the right of** the **OR** operator in the **Query Filters panel**.

   You'll see a **vertical blue line** appear to the right of the **OR** operator when you've positioned the object correctly to drop it.
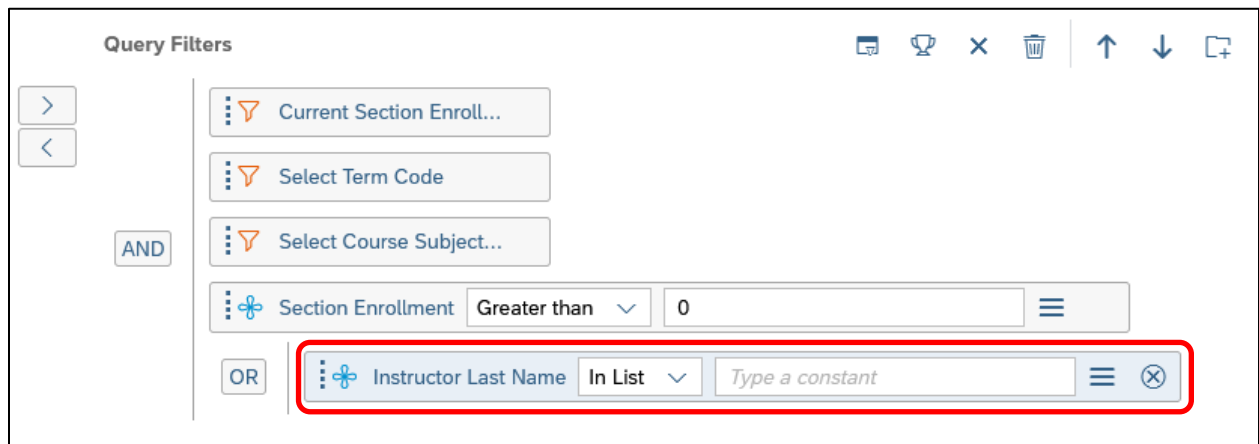
4. Select the **Is not null** operator from the list for the **Instructor Last Name** filter.
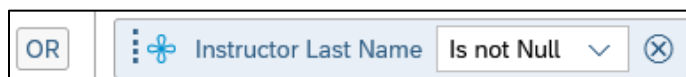
*Note: The **Is not null** operator returns only rows that have a value in the **Instructor Last Name** field.*

5. Drag the **Section Enrollment filter** to the top of the **Instructor Last Name filter** and next to the **OR** operator.

   You'll see a **horizontal blue line** above **Instructor Last Name filter** when you've positioned the object correctly to drop it.

6. Click Run to run the query with the same prompt values.

   We now see rows where the section enrollment is zero, but only where there is a value in the Instructor Last Name column. These results are from the bottom of page 1.

CMN	199	CBG	0		Bigman-Galir	--
CMN	199	CF	0		Finnegan	--
CMN	199	CJL	0		Lee	--
CMN	199	CSJ	0		Jacobs	--
CMN	199	CT	0		Thompson	--
CMN	199	DT	0		Tewksbury	--
CMN	199	EB	0		Bigsby	--

7. Click 💾 to save the changes to the document.

No Data to Retrieve

When working with filters, it is possible to create a situation where there are no rows that meet the created conditions. When this happens, you will receive the following message:

> ⚠ No data retrieved in Query 1 ✕

This usually means you need to fix a problem with your query filters. Some reasons this may happen include:

- Entering a bad value for a prompt or filter. If you added a value to a prompt by using the manual entry method, try searching for the value and selecting it from the list instead.
- Creating two filters that are contrary to each other, for example requesting Section Enrollment greater than 0 and less than 0 in the same query, or looking for a particular Fund Code, but forgetting to change the Org code.
- Requesting data to which you do not have security access. For example, entering a program code that is not in your department, or requesting college-level data when you are a department-level user.

Exercise 2: User Defined Query Filters

Review

1. What icon allows you to edit the query?

2. How many parts are there in a user defined query?

3. What is the difference between **And** and **Or** operators?

Exercise

1. Open the **Available Seats** document created in Exercise 1.
2. Add query filters to limit the data to rows where **Course Title** contains either the word **American** or the word **British**.
3. Run the query.
   The table should look like below:

| Term Code	Course Subje	Course Numl	Course ID	Course Title	Section Numl	Section Enrol	Section Avail
120191	ENGL	115	1002760	Intro to British	G	15	21
120191	ENGL	115	1002760	Intro to British	ZJ1	34	2
120191	ENGL	115	1002760	Intro to British	ZJ2	34	3
120191	ENGL	115	1002760	Intro to British	ZJ3	36	0
120191	ENGL	115	1002760	Intro to British	ZJ4	37	0
120191	ENGL	116	1002761	Intro to Ameri	Q	14	17
120191	ENGL	209	1002775	British Lit to 1	AD1	14	4

4. **Save** the document.

Chapter 3: Prompts

A prompt is a **Query Filter** where the **Operand** can be **defined each time** the report is **refreshed**. Creating a query filter with a prompt allows the user to retrieve different data from the database without changing the filters, making the report more flexible. Each time you run a query with a prompt, you will be asked to supply the value(s) to limit the data.

We will now create a query filter with a prompt which will allow us to determine what level of courses to return.

Building a Prompt

1. Click **Edit Query** [icon] in the File section of the toolbar to display the Query Panel.
2. Type **level** in the search box. Locate the **Course Number Level** object and drag it into the **Query Filters panel** as seen below.
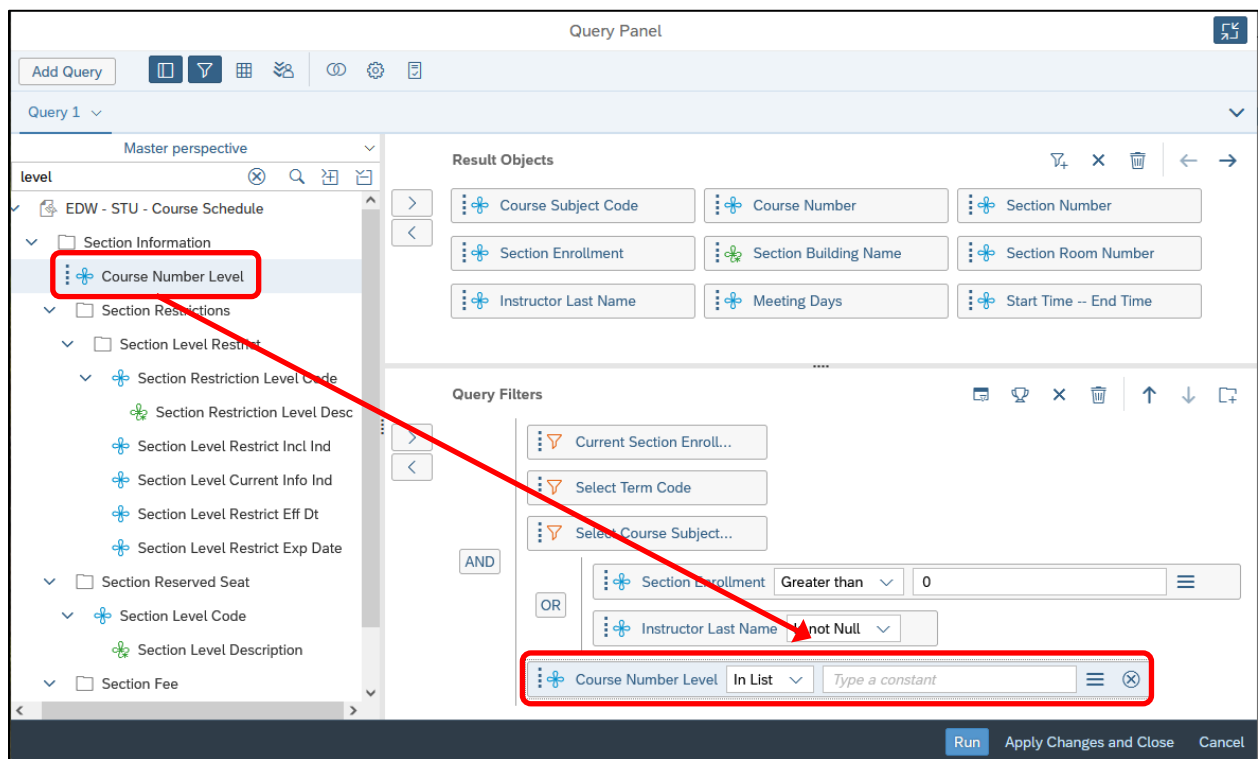
3. Leave the **Operand** value as **In list**. Click the **Define filter type** icon [icon] and select **Prompt**.
4. Now click the new **Prompt Properties** icon [icon] that is now displayed in the **Course Number Level filter** box. The **Prompt Properties** window is displayed:

Page | 39

Prompt Properties window

Prompt Text	This is the text that will be shown to the user running this query. Feel free to edit this text to make it clear to the user what value is being requested by this prompt. Default text: "Enter value(s) for [Object]"
Prompt with List of Values	When a prompt is selected, a list of values is generated. This list can be disabled if the list of values is large and takes too much time to populate. Default: Checked
Select only from list	Removes the manual entry method of entering a value for this prompt.
Keep last value(s) selected	Saves the value(s) entered the last time the query was run. Default: Checked
Optional Prompt	The user can choose to not enter a value for the prompt. If a value is not entered, the filter will not be applied to the report.
Set default value(s)	Allows you to select default values. User can modify this value at prompt. • Click Values... to see a list of values, or • Type a value to enter values manually.

5. Check the **Optional Prompt** check box, and click OK

6. Click Run to run the query.

7. Select the prompt we just added and click **Refresh** ↻ to generate the list of values.

8. Select **100**, **200** and **300** by checking the associated boxes, and click Run to run the query.

Refresh Data / Change Prompt Values

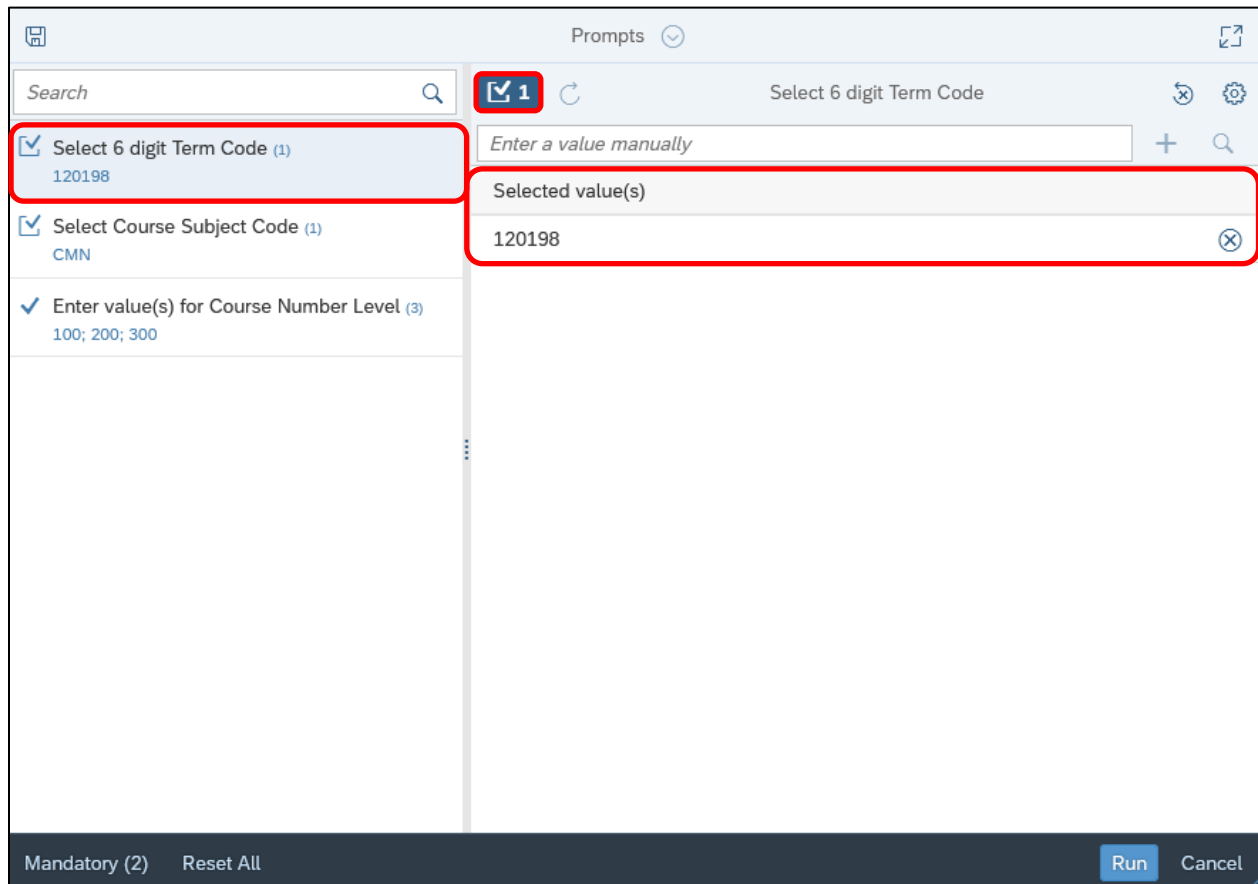Since the EDW is updated and new data is added nightly, **refreshing** the data provider will ensure it is displaying the most up-to-date data.

Refreshing the data will also allow us to adjust our prompt values.

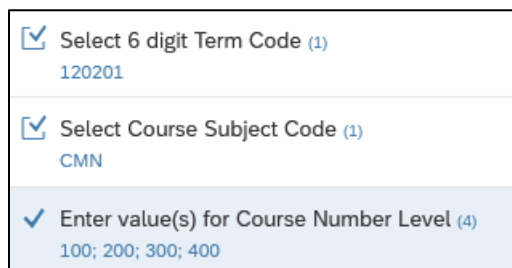1. Click ↻ in the **Query section** of the **toolbar** to refresh the data provider.

   Note: If our document contained 2 or more queries, the ⌄ icon next to Refresh would allow us to refresh specific queries.

2. In the **Prompts window**, click on the **Select 6 digit Term Code prompt** on the left, and then click the **Display Current Prompt Answers Page** icon ☑ 1 above the Search bar to display the currently selected value(s).

3. Click the ⊗ next to term code **120198** to remove it from the selected values.
4. Type **120201** into the Search bar and hit **Enter,** or choose the first option that pops up, to search for the Spring 2020 semester at UIUC. Select term code **120201**.
5. Next, click the **Enter value(s) for Course Number Level prompt** on the left and add **400** to the list of selected values. Your filter should look like below:

6. Click **Run** to run the query with the new prompt values.

7. When the report displays in the **Reports panel**, it now shows course sections offered in Spring 2020, as opposed to Fall 2019 (though we can't tell by looking solely at this table), and if we navigate to the last page, we can see 400 level courses.

CMN	496	JMG	4	Lincoln Hall	1064	Murphy	M W F	1300--1350
CMN	496	JMU	7	Lincoln Hall	1064	Murphy	M W F	1300--1350
CMN	496	JYG	10	Lincoln Hall	1026	Yang	T R	0930--1050
CMN	496	JYU	8	Lincoln Hall	1026	Yang	T R	0930--1050
CMN	496	SJG	0	Lincoln Hall	1024	Jackson	M W F	1300--1350
CMN	496	SJU	6	Lincoln Hall	1024	Jackson	M W F	1300--1350

8. Click [icon] to save the changes to the document.

Exercise 3: Prompts

Review

1. When are the prompts displayed?
2. When entering multiple values for a list, what separator should be used?

Exercise

1. Open the **Available Seats** document.
2. Add an **optional** prompt for a minimum **Section Avail Seats** value.
3. Run the query and enter **10** as the minimum available seats.
   The table should look like below:

Term Code	Course Subje	Course Numl	Course ID	Course Title	Section Numl	Section Enrol	Section Avail
120191	ENGL	115	1002760	Intro to British	G	15	21
120191	ENGL	116	1002761	Intro to Ameri	Q	14	17
120191	ENGL	247	1002785	The British N	S	11	13
120191	ENGL	251	1002790	The American	M	17	15
120191	ENGL	265	1009221	Intro to Ameri	SS	11	19
120191	ENGL	270	1010664	American Filn	G	20	12
120191	ENGL	273	1002796	American Cin	P	8	24
120191	ENGL	286	1002805	Asian America	P	16	19

4. Refresh the document and **remove the value for the minimum available seats**.
5. Display the **selected prompt values** at the top of the first page of the report.
   The table should look something like below:

Term	120191		Subject	ENGL		Minimum Avail Seats	

Term Code	Course Subje	Course Numl	Course ID	Course Title	Section Numl	Section Enrol	Section Avail
120191	ENGL	115	1002760	Intro to British	G	15	21
120191	ENGL	115	1002760	Intro to British	ZJ1	34	2
120191	ENGL	115	1002760	Intro to British	ZJ2	34	3
120191	ENGL	115	1002760	Intro to British	ZJ3	36	0
120191	ENGL	115	1002760	Intro to British	ZJ4	37	0
120191	ENGL	116	1002761	Intro to Ameri	Q	14	17
120191	ENGL	209	1002775	British Lit to 1	AD1	14	4
120191	ENGL	209	1002775	British Lit to 1	AD2	17	1

Chapter 4: Formatting

Most of the formatting of a report takes place after the query has been run and the results are displayed in the Report Manager. This chapter will guide you through the process of formatting the report so that the data can all be viewed and printed.
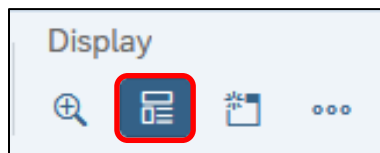
Report Formatting

Report formatting is used when you plan to print or save to a PDF.

Print Layout

In Print Layout, reports are displayed as they will look when printed.

To turn Print Layout on, click in the Display section of the Toolbar.

Report Layout Settings
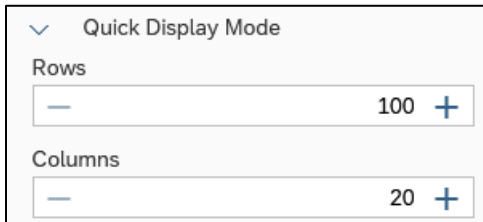
The report's layout settings dictate how the final output of the report will look. These settings become more important when trying to fit large tables of data into a report.

Make sure you **click in a blank white space in the Reports panel**, to ensure you're selecting the report itself and not another element.

In the **Format panel**, select **Report Element Format** in the top row of icons and **Layout Settings** in the bottom row of icons.
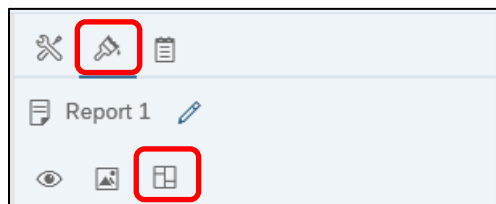
- The top section should show the **Quick Display Mode** settings. Quick Display mode is the normal view, as opposed to the Print Layout mode. Here you can adjust the number of rows and columns to display in the Reports panel while *not* in Print Layout mode. We'll leave this alone.

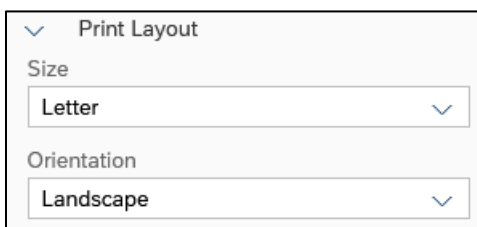| Quick Display Mode	
Rows	
—	100 +
Columns	
—	20 +

Note: If you're seeing something other than the image above in the Format panel, you're probably selecting an object in the Reports panel. Click on a blank white space to select the report itself.

- The next section down is **Print Layout**. Here you can select the size of the paper and its orientation.

  We'll change the size to **Letter** and the orientation to **Lansdscape**.
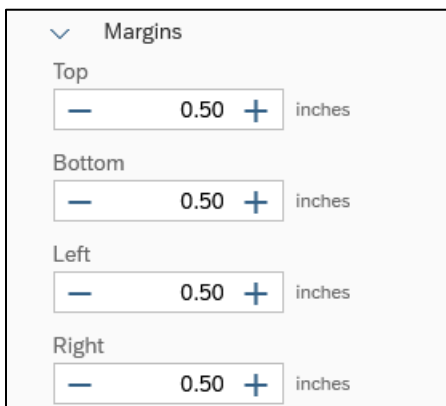
Print Layout	
Size	
Letter	⌄
Orientation	
Landscape	⌄

- The next section down is **Margins**. Here you can adjust the size of the paper's margins.

  We'll change all of the margins to **0.50 inches**.

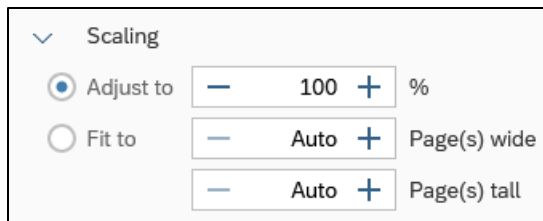| Margins		
Top		
—	0.50 +	inches
Bottom		
—	0.50 +	inches
Left		
—	0.50 +	inches
Right		
—	0.50 +	inches

- The last section is Scaling, where we can adjust the report to fit on a certain number of pages wide and/or tall. We'll leave this alone as well.

As you've noticed, each individual change we applied caused the report to refresh. This is due to the **Instant Apply box** being checked at the bottom of the **Format panel**.

When making a lot of adjustments to a report, you may prefer to uncheck this box and manually click Apply when you want the report to refresh.

Table Formatting

Table formatting is more related to how the data will look in the table, and how the table looks within the report.

Deleting a Column

Sometimes, after running a query and seeing the report, you'll decide to get rid of some columns.

1. Make sure you **click in the block of data** to ensure the table, or an element within it, is selected.

2. In the **Format panel**, select **Report Element Data** in the top row of icons and **Feeding panel** in the bottom row of icons.
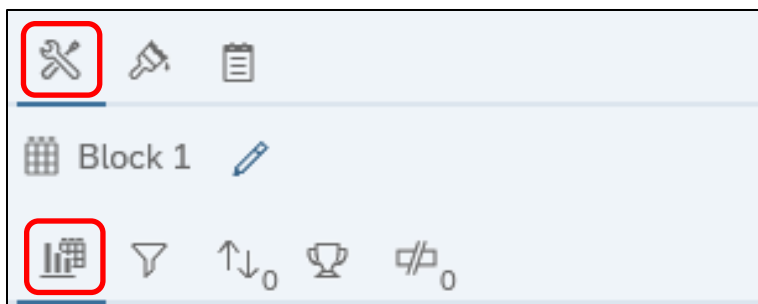
3. We'll demonstrate this by deleting the **Course Subject Code** object. Locate the object in the **Data Assignment section** and select it by clicking on it. Click ⊗ to delete it from the table.

Rearranging Columns

To arrange the columns in a different order, simply drag them to the position you want them in the table, within the **Data Assignment section**. Make sure the blue horizontal line is where you want the object to end up before dropping the it.

1. Make sure you **click in the block of data** to ensure the table, or an element within it, is selected.

2. In the **Format panel**, select **Report Element Data** ⚒ in the top row of icons and **Feeding panel** ▥ in the bottom row of icons.

3. Locate the **Section Enrollment** object, **drag** it down until you see the **horizontal blue line** after the **Start Time – End Time** object, and **drop** it to place it as the last column in the table.
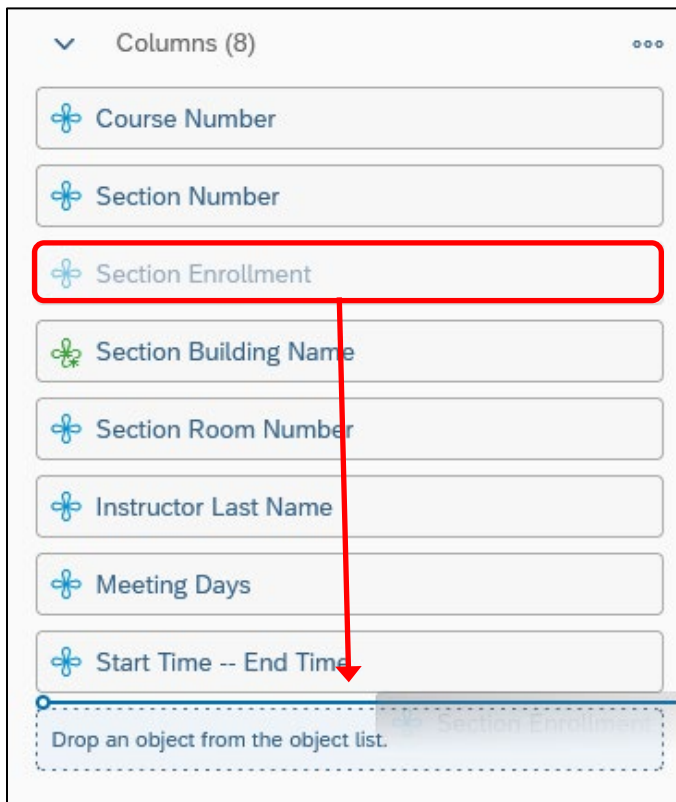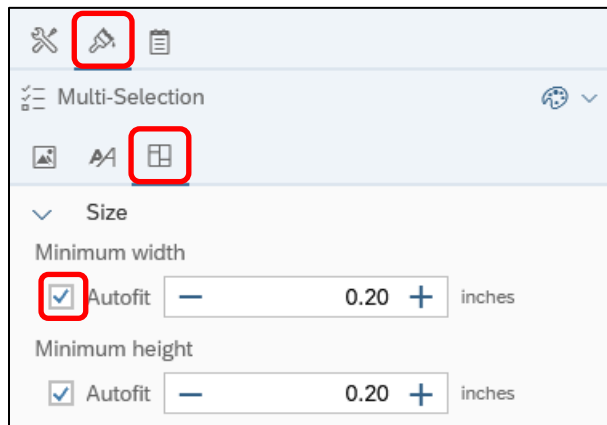

Resizing Columns to Autofit Widths

You can select one or multiple columns (or rows) in the table to adjust the height and width of those elements.

- You can select either the header columns or the data in the columns.
- CTRL or SHIFT for multiple columns.

1. For our report, we're going to set all of the columns to autofit the width based on the values in the columns. Click anywhere in the first column, hold SHIFT and select the last column to select all columns in the table.

2. In the **Format Panel**, select **Report Element Format** in the top row of icons and **Layout Settings** in the bottom row of icons.

3. Check the **Autofit** box under **Minimum width**.

As you can see, when we autofit all of the column widths, our table got wider than the print area:

There are a few solutions to this issue and based on the data being presented and your own personal preferences, you can decide which to use in your own reports.

One option is to go back to the **Report Layout Settings** and set the **Scaling** to **Fit to 1 page wide**. This will scale the table down, so it fits in a single page width.

Wrap Text

We're going to use another option that doesn't scale the table down.

1. Make sure you **click in the block of data** to ensure the table is selected.

2. In the **Format panel**, click **Report Element Format** in the top row of icons and **Text Settings** in the bottom row of icons.

3. Check the **Wrap text** box.
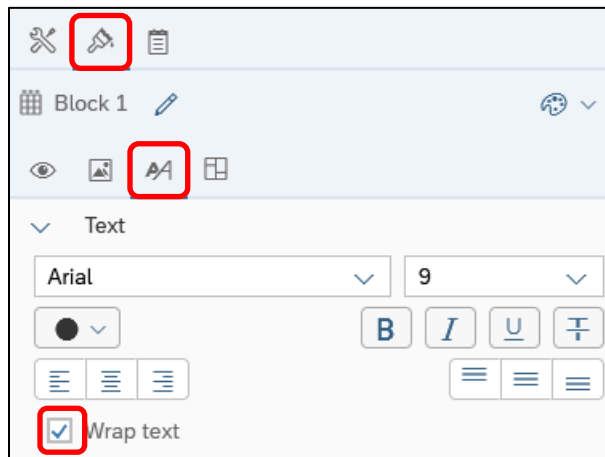
We can now see the text in the column headers is all wrapped to better display the data in the columns.

Course Number	Section Number	Section Building Name	Section Room Number	Instructor Last Name	Meeting Days	Start Time -- End Time	Section Enrollment
101	B1	Lincoln Hall	1026	Junginger	M W F	0900--0950	24
101	B2	Lincoln Hall	1062	Storie	M W F	0900--0950	20
101	C1	Lincoln Hall	1026	Junginger	M W F	1000--1050	24

4. Click to save the changes to the document.

Exercise 4: Formatting

Review

1. What two icons do you select in the **Format panel** to display the **Data Assignment** section?

2. You can only wrap text in the column headers. True or false?

Exercise

1. Open the **Available Seats** document.
2. Change to the **Print layout**.
3. Change the margins to **0.5** inches on all sides.
4. Remove the **Term Code** and **Course Subject Code** columns from the table.
5. **Wrap the text** in the column headings and in the columns as needed.
6. **Resize** the columns to fit the table on one page.
7. Right-align the header for **Section Enrollment** and **Section Available Seat**.
8. Remove the **Report Name** cell and **hide the report header**.
   The top of the table should look something like below:

9. **Save** the document.

Chapter 5: Report Analysis Features

In this chapter, we will cover four features that can help you analyze the data in your reports: **Sorting**, **Filtering**, **Breaks**, and **Calculations**.

The first three features mentioned can be found by **clicking in the block** to ensure the table is selected and clicking **Report Element Data** ⚒ in the top row of icons in the **Format panel**.

Filters   Sorts   Breaks
panel   panel   panel
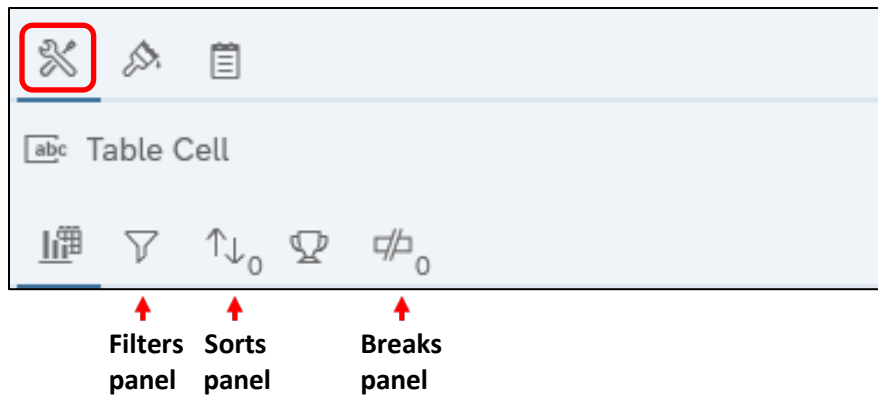
Note the small zeros near the Sorts panel and Breaks panel icons. These serve as a visual indicator of how many sorts and breaks are applied to the block (when the block itself is selected), or whether a column has a sort or break applied to it (1) or not (0). The Filters panel icon and Ranking panel (not discussed in this course) have a dark circle in place of the number, which simply indicates if a report filter or ranking has been applied to the selected element.

Sorting Data in a Table

Even if no sorting has been applied, tables in Web Intelligence are sorted by default. The dimension and detail objects are sorted from left to right in ascending order. Measure objects are not sorted by default. We will now override the default sorting on our table by specifying the sort order for some columns.

1. Make sure you **click in the block of data** to ensure the table, or an element within it, is selected.

2. In the **Format panel**, select **Report Element Data** ⚒ in the top row of icons and **Sort panel** ↑↓₀ in the bottom row of icons.

3. Click the **Add a sort** menu and select **Section Enrollment**.

4. When the Section Enrollment sort appears, click ≡ to sort descending.
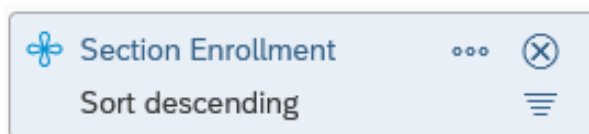
5. Next, we'll add Course Number as a sort. Click **Add a sort** and select **Course Number**.

P a g e | 53

6. We want the table to first sort by Course Number ascending and then by Section Enrollment descending. To prioritize the sorting of Course Number, drag the Course Number sort and drop it when the horizontal blue line is above the Section Enrollment sort.

The **Sort panel** should look like below.
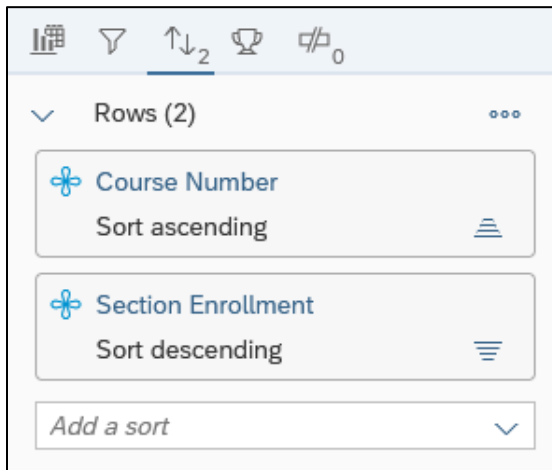
Duplicating and Renaming a Report

It is good practice to first make a copy of a report before making major modifications. Each report within a document has its own tab at the bottom of the editor. Next, we will create a duplicate report so that we can save different variations of the report.

1. Click [ ] in the **Report 1** tab in the upper left corner of the **Reports panel** and select **Duplicate**.
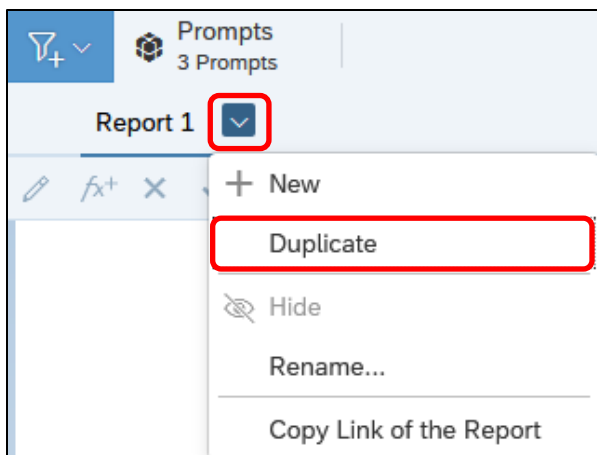
2. Next, we'll Rename the new Report 1 (1) tab. Click the [ ] in the **Report 1 (1)** tab and select **Rename**. When the **Rename Report window** comes up, type **Lincoln Hall** and click OK .
3. Let's also rename **Report 1**. Let's call it **All CMN Enrollment**.
   The **Reports panel's tabs** should now look like below.
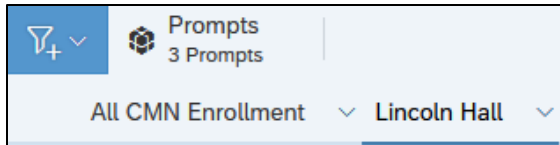
3. Click 🖫 to save the changes to the document.

Applying a Report Filter

After running a query, you may decide that you want only certain data to be displayed in your report. If you run a report for your college, you may want to separate the report by department. Applying a report filter allows you to run a single query with all the data you need to produce a number of reports.

In our case, we only want to show data for the sections held in **Lincoln Hall**.

1. Make sure you're on the **Lincoln Hall report** and not the All CMN Enrollment report.

2. In the **Format panel**, click **Report Element Data** ⚒ in the top row of icons and **Filter panel** ▽ in the bottom row of icons.
   Note that if the report is selected, Filter panel will be the only icon in the bottom row, but if the block is selected, the bottom row will include more icons. Either way will work.

3. Locate the **Section Building Name** object from **Document Objects** ⬡ list in the **Main panel** to the drop area in the **Filter panel**.

4. This brings up the **Select values for Section Building Name** window, where we will select **Lincoln Hall** and click OK .
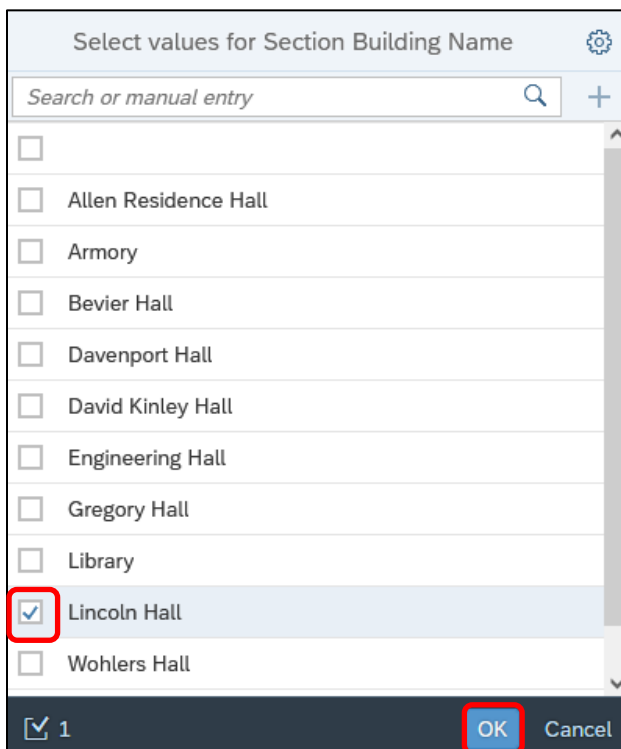
Managing Report Filters

If we need to change the operator from the default 'In list,' we can do that as we set up the filter.

- In the **Select values for Section Building Name** window, click the **Settings** ⚙ icon in the top right corner to select from the standard list of operators.

If we should realize after setting up the report filter that we need to use a different operator, or change the values we initially selected, or in cases of multiple report filters being applied at once, we can manage all of the report filters in one location.

1. In the **Format panel**, click **Report Element Data** ⚒ in the top row of icons and **Filter panel** ▽ in the bottom row of icons. Click either of the ∘∘∘ icons below, and select **Manage Filters**.
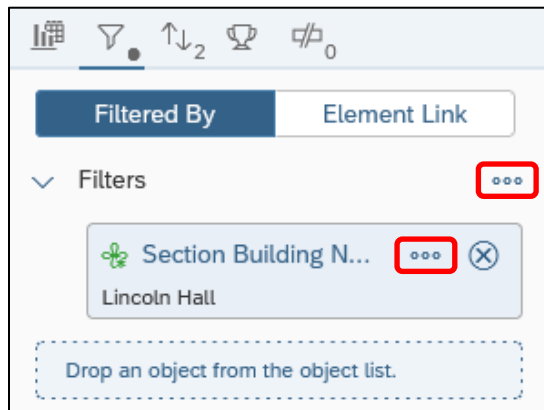
2. From the Report Filter window, we can access every report filter in the entire document (left panel), add filters or nested filters and change operators of filters (top panel), and change the values selected for each filter (bottom panel).
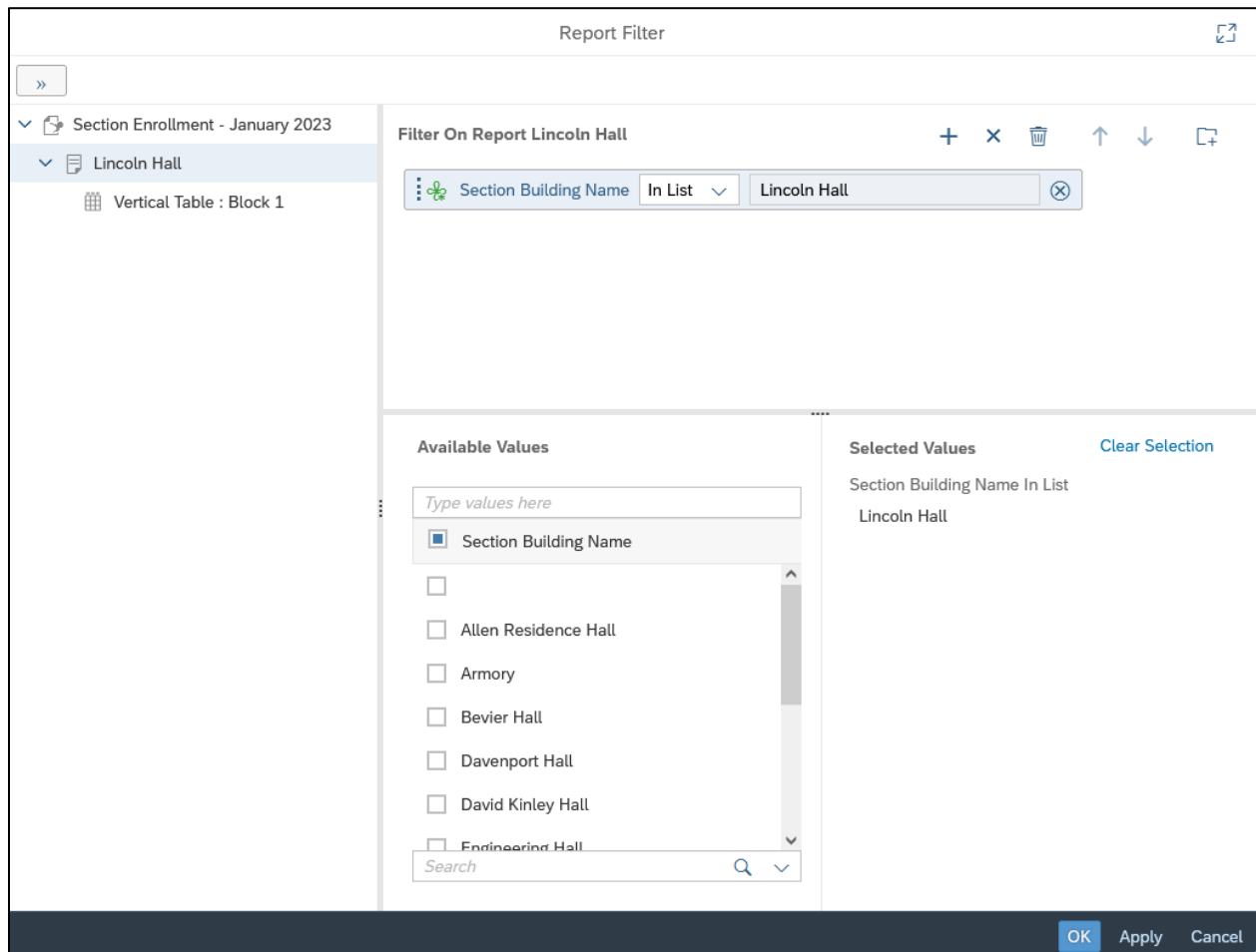
3. For our purposes, nothing needs to be done here. Click **Cancel** .

Inserting a Break

In our example, we would like to display the sum of students enrolled not only in each section, but also a sub-total by Course Number.

First, we will insert a break on Course Number. Inserting a break will take a large table of data and create sub-tables to make the information easier to understand.

1. Make sure you're on the **Lincoln Hall report** and not the All CMN Enrollment report.

2. In the **Format panel**, click **Report Element Data** [icon] in the top row of icons and **Breaks panel** [icon] in the bottom row of icons.

3. Click the **Add a break** menu, select **Course Number**, and click **OK** .

4. We now see that our report is broken up at each change in Course Number.

NN4	Lincoln Hall	1062	Hannan	T R	1400--1520		13
D3	Lincoln Hall	1062	Fields	M W F	1100--1150		7
101							

Course Number	Section Number	Section Building Name	Section Room Number	Instructor Last Name	Meeting Days	Start Time -- End Time	Section Enrollment
211	3	Lincoln Hall	1057	Michael	M W F	1100--1150	24
	4	Lincoln Hall	1024	Huff	T R	1100--1220	24

Inserting Calculations

Web Intelligence calculations enable you to quickly add information to your report. Many of the calculations only work with numeric data. The type of data determines which calculation functions are available.

The following table shows the available calculations and data types:

Calculation	Object Type	Description
Count		Counts all rows.
		Counts distinct rows.
Min		Displays the minimum value of the selected data.
Max		Displays the maximum value of the selected data.
Sum		Calculates the sum of the selected data.
Average		Calculates the average of the data.
Percentage		Displays the selected data as a percentage of the total. The results of the percentage are displayed in an additional column or row of the table.

Inserting a Sum

Select and **then right-click the data** (not the column header) in the **Section Enrollment** column, select **Footer Calculation**, and select **Sum**.

Start Time -- End Time	Section Enrollment			
		Content	>	
0900--0950	24	✂ Cut	Ctrl+X	
1000--1050	24	🗐 Copy	Ctrl+C	
1100--1150	24	Hide	>	
1000--1050	23	✕ Delete	Del	
1000--1050	23			Count
1400--1520	23	🗨 Comments		Min
1100--1220	23	Set as Section		
1100--1220	23	Insert	>	Max
1230--1350	23	Unmerge		Sum
1230--1350	23	Hyperlink	>	Average
1230--1350	23			
1200--1250	22	Element Link	>	Percentage
1100--1220	22	Footer Calculation	>	Default Aggregation
1800--2050	22	⊡ Assign Reference...		

Scrolling down the report, we can see that we now have a sum in the footer of each break, and a grand sum at the very bottom.

Course Number	Section Number	Section Building Name	Section Room Number	Instructor Last Name	Meeting Days	Start Time -- End Time	Section Enrollment
465	UG	Lincoln Hall	4053	Quick	M W	1400--1520	29
	GR	Lincoln Hall	4053	Quick	M W	1400--1520	0
465						Sum:	29
496	JYG	Lincoln Hall	1026	Yang	T R	0930--1050	10
	JYU	Lincoln Hall	1026	Yang	T R	0930--1050	8
	JMU	Lincoln Hall	1064	Murphy	M W F	1300--1350	7
	SJU	Lincoln Hall	1024	Jackson	M W F	1300--1350	6
	JMG	Lincoln Hall	1064	Murphy	M W F	1300--1350	4
	SJG	Lincoln Hall	1024	Jackson	M W F	1300--1350	0
496						Sum:	35
						Sum:	2003

Note: Multiple calculations can be done on the same column at the same time. Each additional calculation on a column will result in the addition of a new footer row containing the new calculation.

Click ⊟ to save the changes to the document.

Exercise 5: Report Analysis Features

Review

1. In the **Format panel**, which **two icons** do you select to manage **Sorts**?

2. Describe a scenario where the number in the **Sorts icon** changes **from 2 to 1** $\uparrow\downarrow_2$ → $\uparrow\downarrow_1$, without deleting a sort?

Exercise

1. Open the **Available Seats** document**.**
2. Create a duplicate of **Report 1**.
3. Rename the new report **Available Seats by Course**.
4. In the new report, add a break on the **Course Number** column.
5. Add a descending sort on **Section Avail Seat**.
6. Add a **sum** calculation to the **Section Enrollment** and **Section Available Seat** columns.
7. Add a cell displaying the **Page Number / Total Pages** to the top right corner so that it shows up on every page (hint: you may need to add something back we deleted previously)
   The top of the report should look similar to below:

| | | | | | | 1/3 |

| | Term | 120191 | Subject | ENGL | Minimum Avail Seats | |

Course Number	Course ID	Course Title	Section Number	Section Enrollment	Section Avail Seats
115	1002760	Intro to British Literature	G	15	21
	1002760	Intro to British Literature	ZJ2	34	3
	1002760	Intro to British Literature	ZJ1	34	2
	1002760	Intro to British Literature	ZJ3	36	0
	1002760	Intro to British Literature	ZJ4	37	0
115			Sum:	156	26
				Section	Section Avail

Chapter 6: Exporting Data and Sending

In addition to saving a document in the standard file type (.wid), you can also export the data in different formats, such as Excel, PDF, CSV, or Text. It is a good practice to save your report first as a Web Intelligence document, and then to save your results to Excel or PDF each time you refresh the report.

Exporting to Excel (.xlxs)

1. In the **File** section of the **Toolbar**, click **More** and select **Export**. The **Export to** window is displayed.

   On the **Content** tab, there are radio buttons for **Reports** and **Data**.

   Exporting a document's **Reports** will export the data with all of the formatting applied, whereas exporting the **Data** will export the raw data returned from the query.

   We're going to download both options, so you know what to expect when exporting data in the future.

2. Select **Reports** and check the box to include **All reports**, and then click **Export**

3. Locate the downloaded file and open it using Excel.
   We see that the worksheet – named for the Web Intelligence document – has two spreadsheets – named for the two reports. We also see the formatting that has come over.

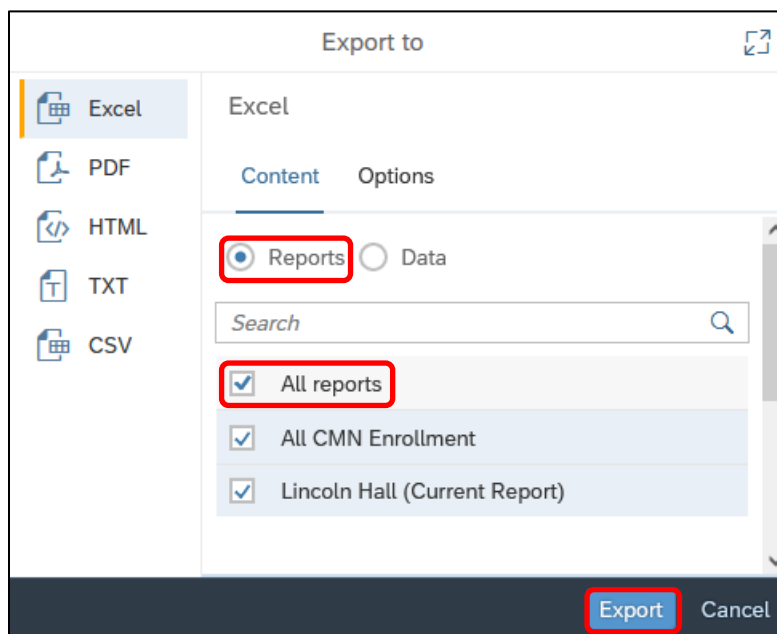4. Go back to Web Intelligence. In the **File** section of the **Toolbar**, click **More** and select **Export**. The **Export to** window is displayed.

5. This time, select **Data** and then click **Export**

6. Locate the downloaded file and open it using Excel.

This spreadsheet is very different – no formatting at all – not even the default formatting Web Intelligence put on tables.

Note: These two exports can be very beneficial in troubleshooting data issues with your reports. Comparing them can often tell you whether there is a problem with the underlying query, or with the formatting of the reports.

Sending to a BI Inbox

The **BI Inbox** is a document sharing system within Web Intelligence that allows users to securely send documents to one another.

- **If you're in the document** (running, editing, etc.), in the **File** section of the **Toolbar**, click **More** and select **Send to BI Inbox**.
   OR

   If you're on the Home Screen or in a folder, click **More**   and select **Send to BI Inbox**. The **Send to users** window is displayed.

- In the **Search** bar, enter the **NetID** of the user you want to send the document to and click

- **Check the box** next to the user's **NetID**, and it will be included in the **Selected Items** box at the bottom of the window.

- Click to send the document to the user.

Exercise 6: Sending a Document

Review

1. What are the two main options when exporting data (e.g., types of data to export)?

Exercise

1. Send the **Available Seats** document to the following **BI Inbox**: _____

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.

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.

Select Help from the menu in the upper right corner of the Web Intelligence window.
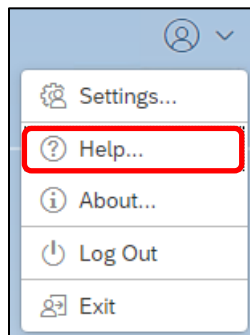
This will take you to the SAP BusinessObjects Web Intelligence User's Guide for the version installed in the Production environment.

Appendix B: Query Filter Operators

The following table can help select the operator needed:

Operator	Description	Example
Equal to	Is equal to *one* given value	[Fiscal 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	[Total Reg Credit Hours]<Less than or Equal to>11
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>1/1/2022 12:00:00 AM<and>12/31/2022 11:59:59 PM
Not Between	Is less than the first given value or greater than the second given value	[Job End Date]<Not Between>1/1/2022 12:00:00 AM<and>12/31/2022 11:59:59 PM
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	[Type of Fund]<Not in list>State Funds;Plant Funds;Endowments
Is null	Contains empty rows	[Financial Person Email Addr]<Is null>
Is not null	Does not contain empty rows	[Employee Campus Email Addr]<Is not null>
Matches pattern	Contains the same character(s) as the given pattern. Wildcard characters are _ for a single character and % for 0 or more characters.	[Employee Last Name]<Matches pattern>Alb%
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<and>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.

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

Using wildcard characters

Conditions with the Matches pattern and Different from pattern operators are great for finding lists of similar values, such as last names beginning with 'Alb' or email addresses matching pattern '@uic.edu.'

Wildcard Description

%   The percent sign replaces several characters in a constant, or all characters in the response to a prompt. For example, N% returns all values beginning with an N (New York, Nevada, etc.), and 435% returns 435, 435001, 435002, 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 can help select the operand option needed:

Operand Option	Description	Enter by…
Constant	Values that you type. Note that values are case-sensitive and must be entered exactly as they appear in the database otherwise no data will be returned.	Type the values with a semicolon (;) between each one.
Value(s) from list	Values that you select from the object's list of values.	Select **Value(s) from list** option. Select from the populated list of values. Click **Refresh values** if list does not automatically populate.
Prompt	Values that you will select when you run the query.	Edit default prompt text in text box. Click **Prompt Properties** for more options.
Object from this query	Use a list generated by another object in the same query. For example, you can pull GPA Level codes that only match the Student Registration Level Codes being returned in the same query.	Select **Object from this query** then select the object from the list.
Results from another query Results from another query (Any) Results from another query (All)	Use a list generated by another query. For example, a list of UINs from another spreadsheet. Note there is an Oracle limit of 1000 values.	Select **Results from another query** then select the data provider from the list.