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## Filters

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## Concepts

A filter reduces the amount of data in a report by the criteria you choose. You can filter one or more item(s), by a precise match, or by a partial match.

### Expressions:

A filter expression is always comprised of these pieces:

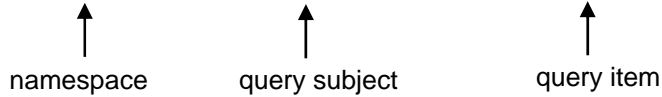
The column name, which can be taken from the report

An operator, such as =

The data we are searching for

An example of a filter expression is:

**[Report Net Training Data].[Personal Data].[Country Code]='CAN'**



### Operators:

The operator indicates what kind of match. Below is a table of common operators:

=	Equal to. Must find a precise match.
<>	Not equal to. Shows everything except the match.
In	Matches a list of items.
Not In	Shows everything except the matches.
Starts With	Retrieves everything that begins with the characters or phrase.
Contains	Retrieves everything that contains the matching characters or phrase.
Is Missing	Retrieves blanks.

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## Opening the Filters Dialog Window

GOAL: To open and examine the Filters dialog window.

STEPS:

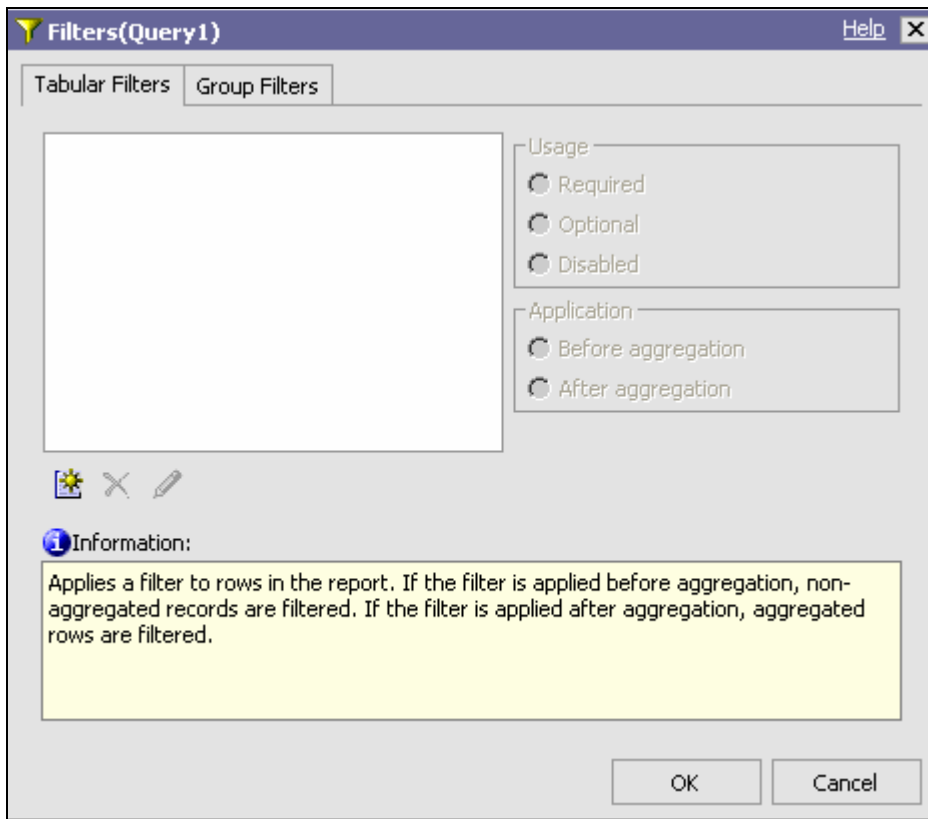
1. Start a **New List Report**. From the Personal data folder add:
  - Last Name
  - First Name
  - Country Code
  - Street Address 1
  - City
  - State
  - Postal Code
  - Birthdate

Last Name	First Name	Country Code	Street Address 1	City	State	Postal Code	Birthdate
<Last Name>	<First Name>	<Country Code>	<Street Address 1>	<City>	<State>	<Postal Code>	<Birthdate>
<Last Name>	<First Name>	<Country Code>	<Street Address 1>	<City>	<State>	<Postal Code>	<Birthdate>
<Last Name>	<First Name>	<Country Code>	<Street Address 1>	<City>	<State>	<Postal Code>	<Birthdate>

3. Click the **Filters**  icon and the Filters Dialog Window opens.

## The Filters Dialog Window

The Filters window consists of two tabs, **Tabular Filters**, and **Group Filters**. Tabular Filters apply to rows in the report. Group Filters apply to groups in the report. Group filters are also used to apply to an item not in the package, such as a calculated item.



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The **Usage** area consists of three options:




- **Required** – The filter is required. In the case of a prompt, the report will not run until you have made a choice from the prompt.
- **Optional** – The filter is optional. In the case of a prompt, the report will run even if you do not choose anything from the prompt.
- **Disabled** – The filter is disabled. Disabling a filter allows the report to run without applying the filter. The filter is not removed; it is de-activated which may help in trouble-shooting the report.

The **Application** area consists of two options.


- **Before Aggregation** – To apply a filter before a summary is calculated, non-aggregated records are filtered.
- **After Aggregation** – To apply a filter after a summary is calculated aggregated rows are filtered.

*Note: Aggregation is discussed in the calculations chapter. It is covered in greater detail in the Report Studio Level II training manual.*

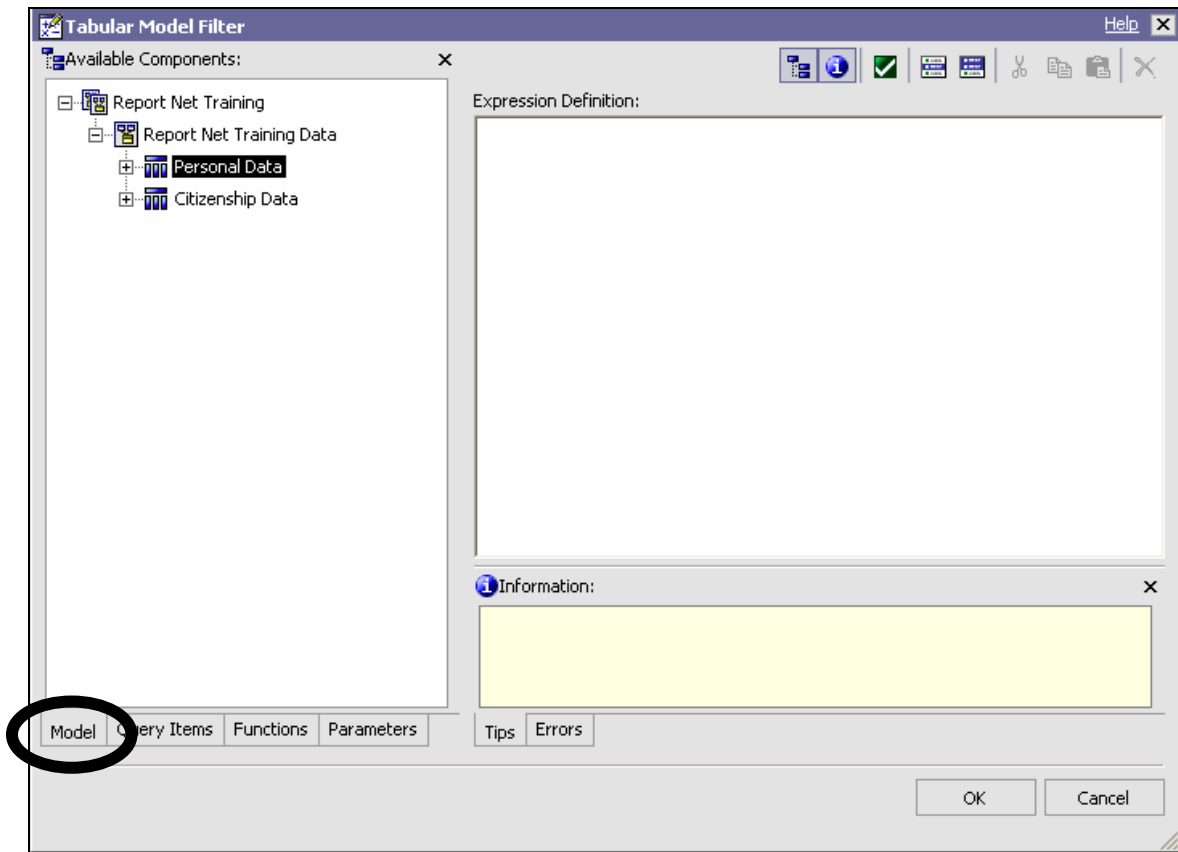
The following icons are available for the filter expression.

	<b>Add.</b> Used to add a filter.
	<b>Delete.</b> Used to delete a filter.
	<b>Edit.</b> Used to edit a filter.

## Tabular Model Filter

From the Filters window, click the **Add**  icon to open the Tabular Model Filter window. The **Model** tab allows you to filter on any item in the package. The **Query Items** tab allows you to filter on items in the report. The **Functions** tab allows you to create filter calculations. The **Parameters** tab allows you to use existing filters.

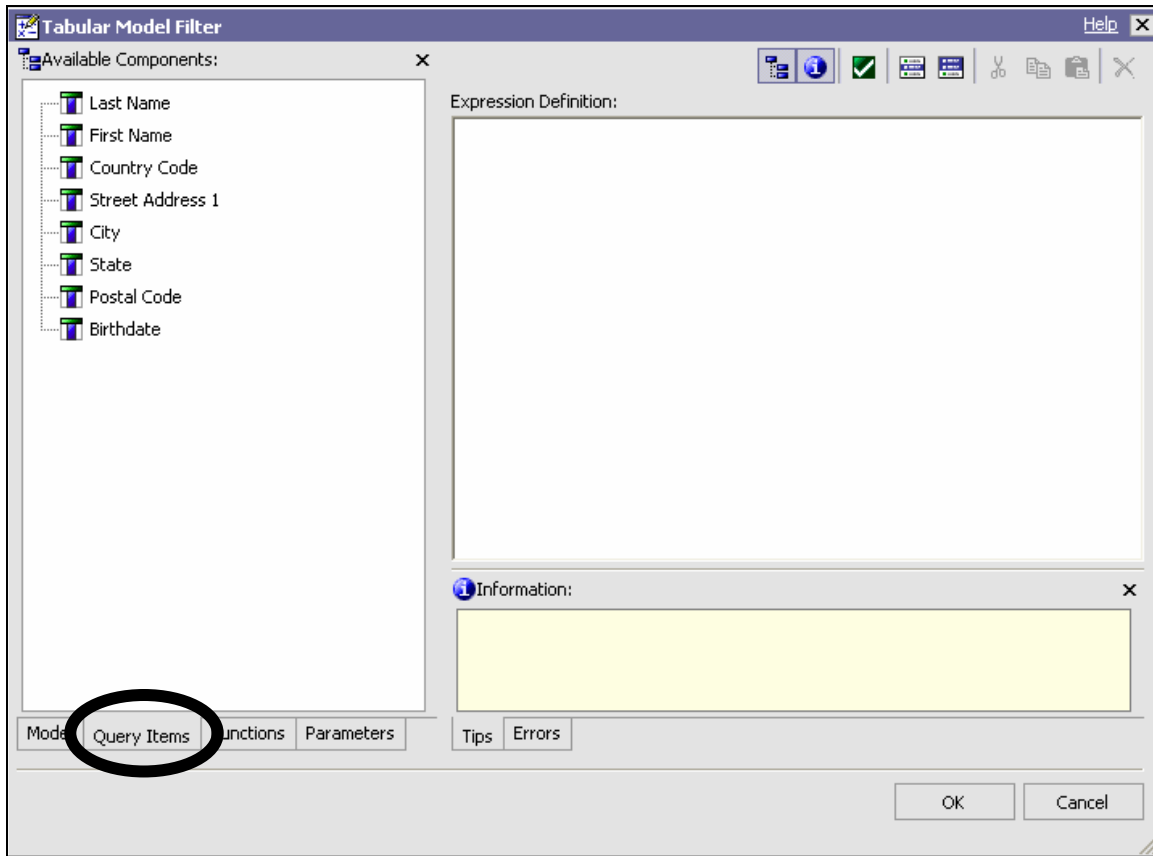
### Model tab



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## Query Items tab

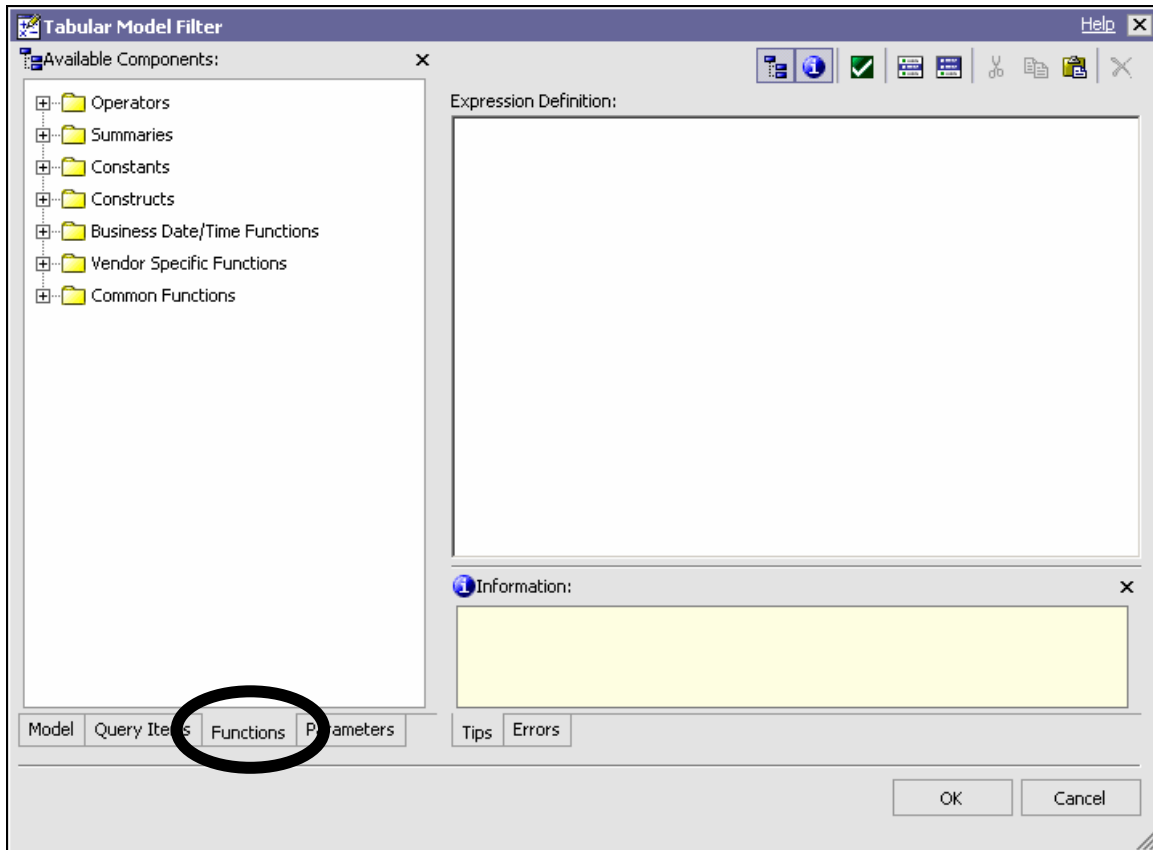
The **Query Items** tab allows you to filter on items in the report.





## Functions tab

The **Functions** tab allows you to create a filter using functions.

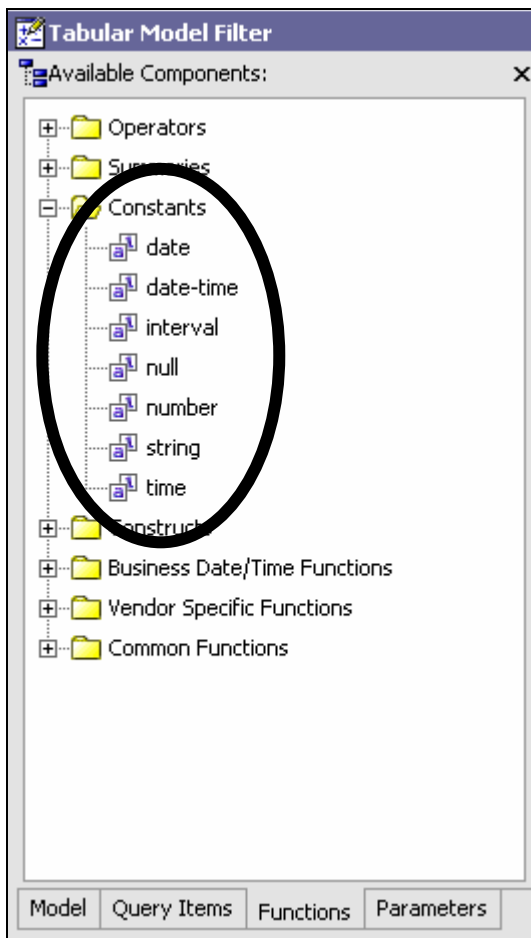


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## Data types:

When building a filter, you can specify the data type. (This is optional; if you know the data you are looking for, you can type it directly into the expression, provided you use the correct syntax.)

Use the Constants folder to locate a list of available data types.



date	Inserts the current system date.
date-time	Inserts the current system date and time.
interval	Inserts a zero interval.
null	Inserts a null value if the expression conditions are not met.
number	Inserts the number 0, which you can replace with a new numeric value.
string	Inserts an empty string.
time	Inserts the current system time.

## Filtering on a Single Item from the Model (Model tab)

Report Studio provides the flexibility to either filter on an item in the model, or on an item in the report. The Model tab is the location to use to filter on an item in the model.



GOAL: To create a filter (Tabular) on Employee.

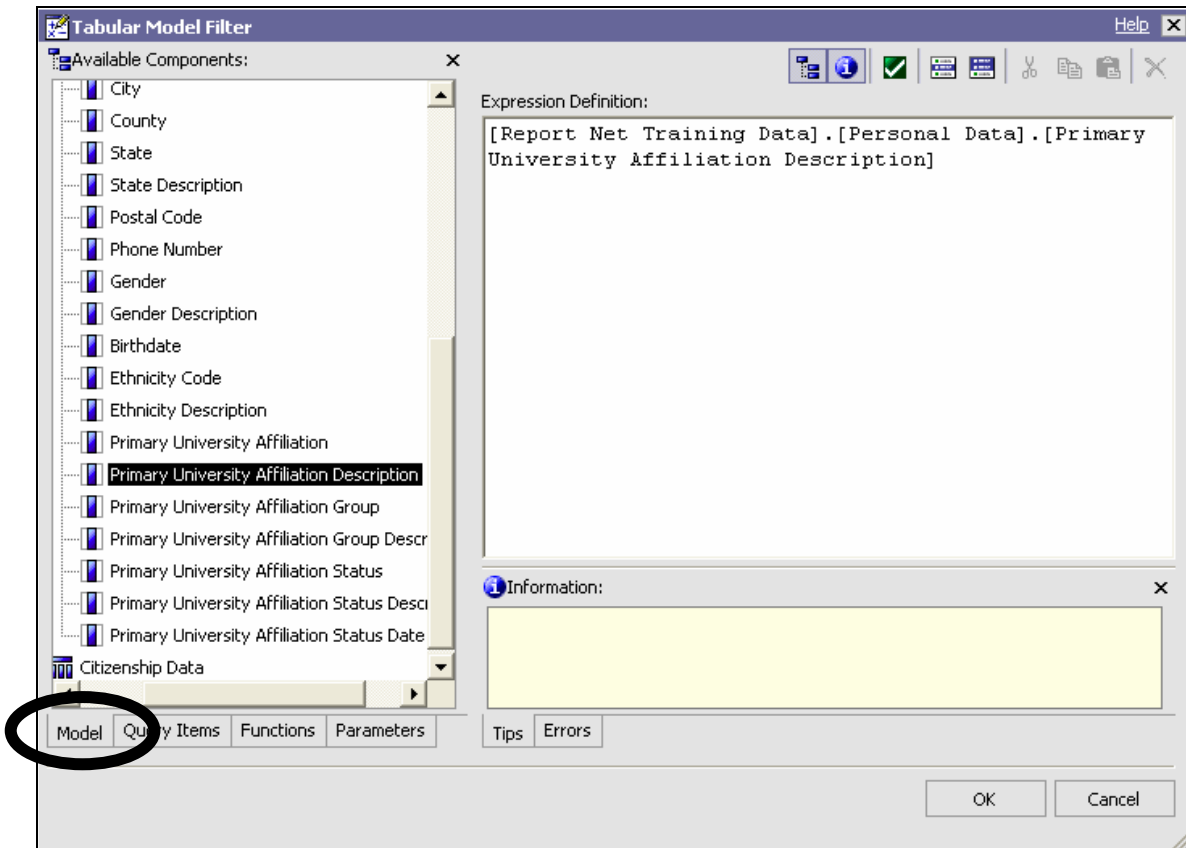
STEPS:

1. Save the report as **Pre Filter** in My Folders.
2. **Run** the report to see the report before any filters are applied.

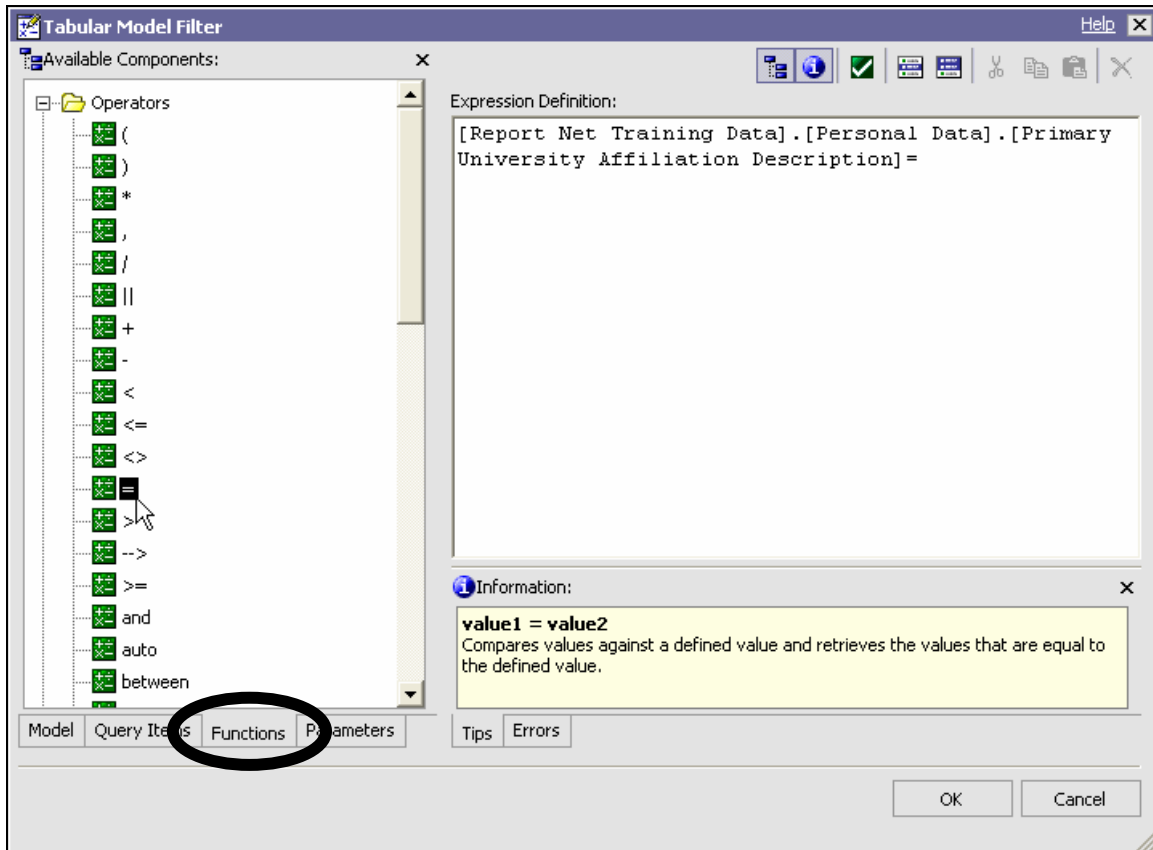
Last Name	First Name	Country Code	Street Address 1	City	State	Postal Code	Birthdate
Aden	Hitoshi	USA	504 South 4th Avenue	Chester	NJ	07930	Sep 16, 1978
Adler	Meiko		486 Fairfield Road				Jun 16, 1980
Agyeman	Annette	USA	19 Shirley Lane	Erie	PA	16505	Apr 7, 1969
Ahearn	Amy	USA	77 Van Sant Drive	East brunswick	NJ	08816	Apr 20, 1971
Ahmad	Heinz-Dieter	USA	42 Rolling Lane	Palo Alto	CA	94306	Jan 31, 1978
Ahmed	Michael	USA	12 Shell Turn	Salina	KS	67401	Sep 26, 1973
Aidoo	Roy	USA	99 Chesterfield	Stone Harbor	NJ	08247	May 18, 1978
Alatalo	Thomas		150 Locust Ave.				Nov 22, 1966
Alexander	Jiping	USA	5 Tanager Lane	Golden Valley	MN	55416	Jan 18, 1978
Alyea	Mark	USA	3 Kirk Avenue	Princeton	NJ	08540	Apr 16, 1977
Amerian	Access	USA	713 Lake Drive	Lawrenceville	NJ	08648	May 22, 1965
Amobi	Maria	USA	116 Niagara Lane	Bloomfield Hills	MI	48301	Jan 30, 1975
Amon	Shiren	USA	9 Saylor Court	Woodside	CA	94062	Jul 11, 1979
Amon	Ze-Ke	USA	36 Juniper Row	Flower Mound	TX	75022	Dec 31, 1980
Andler	Gregory	USA	70 Clay Street	New York	NY	10022	Jun 28, 1977
Andrews	Waka	USA	Post Office Box 261	Minersville	PA	17954	Sep 13, 1967
Ang	Gerald	USA	133 Green Avenue	Huntington Station	NY	11746	Sep 4, 1979
Angelo	Christian	USA	Post Office Box 5863	Newberry	SC	29108	Oct 9, 1978
Anglin	Bryan	USA	11 Edgehill Street	Houston	TX	77024	Jun 28, 1979
Anker	Katsuaki	USA	2334 Strawberry Court	Woodstock	MD	21163	Jan 21, 1974

3. Close the **Report Viewer**.

4. On the toolbar, click the **Filters** icon  and the Filters window opens.
5. Click the **Add** icon .
6. From the Model tab, double-click **Primary University Affiliation Description**.



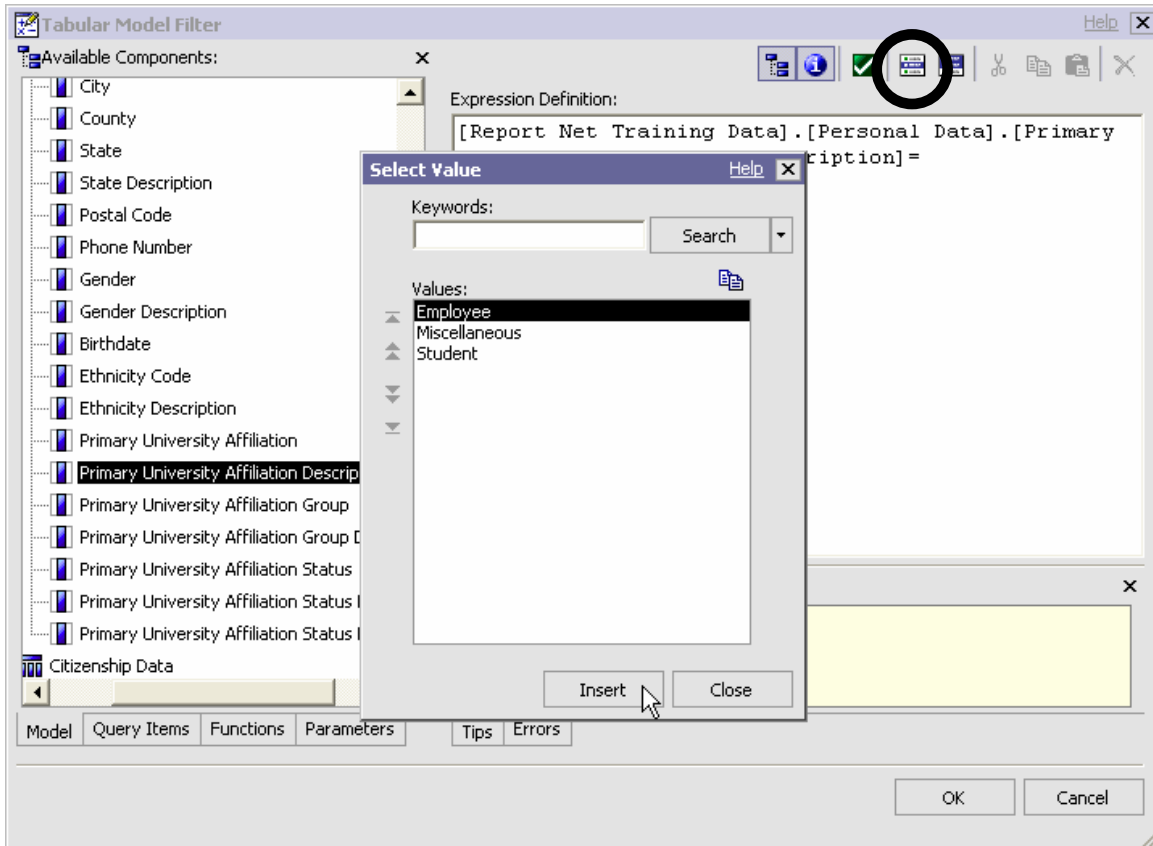
- Click the **Functions** tab.
- Open the **Operators** folder and double-click the equal sign “=”.




9. Click the **Model** tab and make sure **Primary University Affiliation Description** is highlighted.

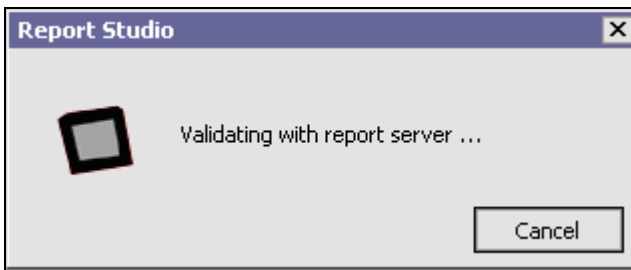
10. Click the **Select Value** icon .

11. Highlight **Employee**.

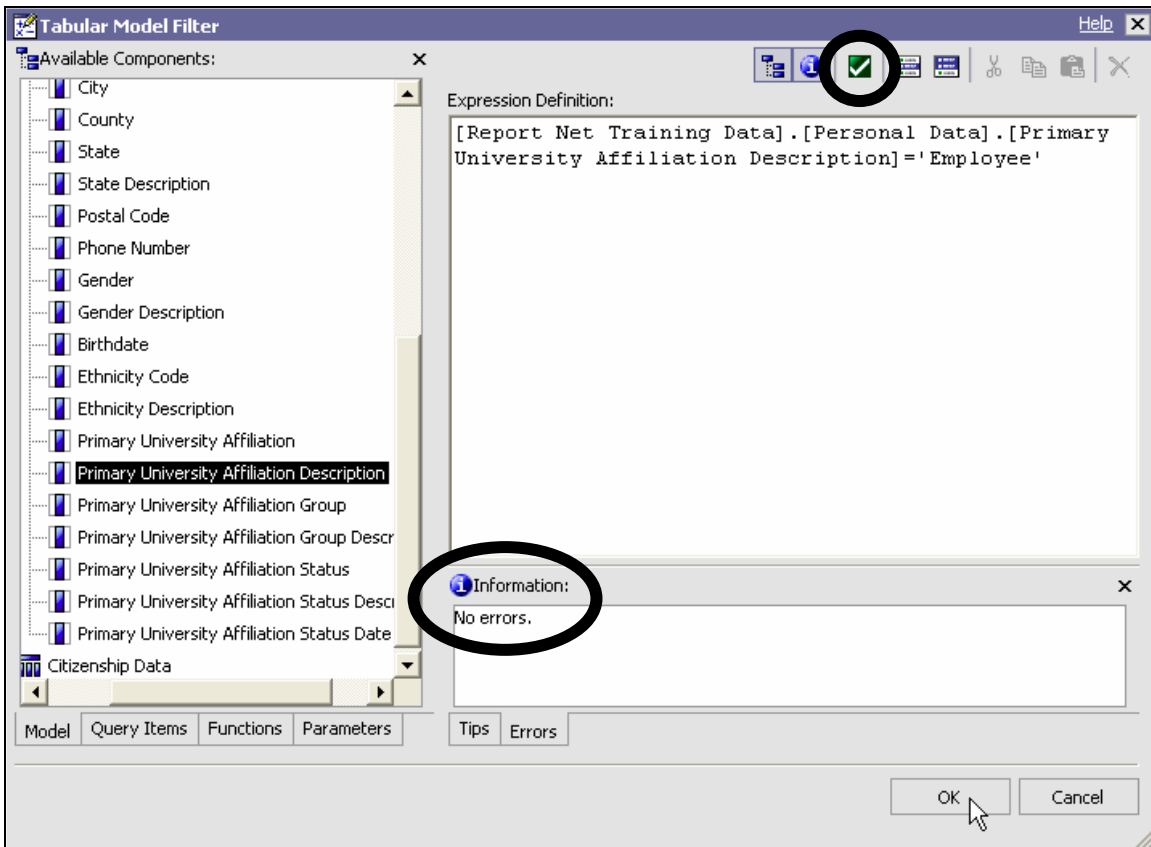


12. Click **Insert**.

13. In the Tabular Model Filter window, click the **Validate** icon . The Report Studio window will show the validation process with the server.

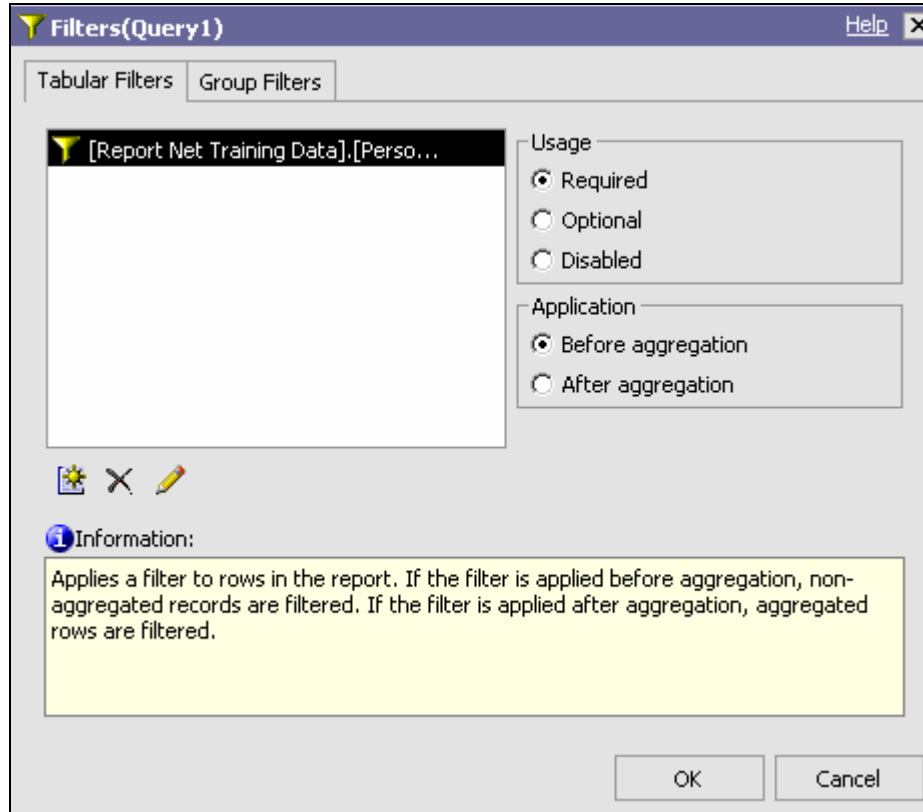


14. When the validation process is complete and successful, you will see a “**No errors**” message in the Information window.



15. Click **OK**.

16. The new filter appears in the Filters window in the Tabular Filters tab.




17. Click **OK**.



## 18. Run the report.

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Last Name	First Name	Country Code	Street Address 1	City	State	Postal Code	Birthdate
Agyeman	Annette	USA	19 Shirley Lane	Erie	PA	16505	Apr 7, 1969
Ahmed	Michael	USA	12 Shell Turn	Salina	KS	67401	Sep 26, 1973
Aidoo	Roy	USA	99 Chesterfield	Stone Harbor	NJ	08247	May 18, 1978
Alatalo	Thomas		150 Locust Ave.				Nov 22, 1966
Alyea	Mark	USA	3 Kirk Avenue	Princeton	NJ	08540	Apr 16, 1977
Amobi	Maria	USA	116 Niagara Lane	Bloomfield Hills	MI	48301	Jan 30, 1975
Andler	Gregory	USA	70 Clay Street	New York	NY	10022	Jun 28, 1977
Andrews	Waka	USA	Post Office Box 261	Minersville	PA	17954	Sep 13, 1967
Anker	Katsuaki	USA	2334 Strawberry Court	Woodstock	MD	21163	Jan 21, 1974
Bakhtiar	Joan	USA	82 Sycamore Court	Houston	TX	77005	Sep 15, 1976
Barnes	Steve	USA	40 Fox Chase Run	New York	NY	100172303	Apr 2, 1977
Bayri	John	USA	56 Viburnum Court	Morris Plains	NJ	07950	Mar 24, 1974
Bearse	Thomas	HKG	61 Runyon Drive	Lucky Plaza			May 16, 1977
Bell	Yasuko	USA	601 Bordentown Road	Laredo	TX	78041	Feb 5, 1978
Beltramo	Ronald	USA	6 James Court	Princeton	NJ	08540	Nov 9, 1978
Benitez	Lydia	USA	5648 Terrace Avenue	Chesapeake	VA	23322	Nov 6, 1977
Benton	Serge	USA	883 Strawberry Lane	Gainesville	FL	32607	May 19, 1976
Biller	Rutha	USA	200 Bollen Court	Ann Arbor	MI	48105	Oct 15, 1978
Birch	Anthony	USA	31 Eden Way	Williamson	GA	30292	Aug 9, 1977
Bontekoe	Randolph	USA	1522 Country Mill Drive	Catonville	MD	21228	May 2, 1976

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## 19. Close the Report Viewer.

20. From the **Personal Data** folder, add **Primary University Affiliation Description** as the last column.

Last Name	First Name	Country Code	Street Address 1	City	State	Postal Code	Birthdate	Primary University Affiliation Description
<Last Name>	<First Name>	<Country Code>	<Street Address 1>	<City>	<State>	<Postal Code>	<Birthdate>	<Primary University Affiliation Description>
<Last Name>	<First Name>	<Country Code>	<Street Address 1>	<City>	<State>	<Postal Code>	<Birthdate>	<Primary University Affiliation Description>
<Last Name>	<First Name>	<Country Code>	<Street Address 1>	<City>	<State>	<Postal Code>	<Birthdate>	<Primary University Affiliation Description>

21. **Run** the report. (You will see the applied filter on Employee.)

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Last Name	First Name	Country Code	Street Address 1	City	State	Postal Code	Birthdate	Primary University Affiliation Description
Agyeman	Annette	USA	19 Shirley Lane	Erie	PA	16505	Apr 7, 1969	Employee
Ahmed	Michael	USA	12 Shell Turn	Salina	KS	67401	Sep 26, 1973	Employee
Aidoo	Roy	USA	99 Chesterfield	Stone Harbor	NJ	08247	May 18, 1978	Employee
Alatalo	Thomas		150 Locust Ave.				Nov 22, 1966	Employee
Alyea	Mark	USA	3 Kirk Avenue	Princeton	NJ	08540	Apr 16, 1977	Employee
Amobi	Maria	USA	116 Niagara Lane	Bloomfield Hills	MI	48301	Jan 30, 1975	Employee
Andler	Gregory	USA	70 Clay Street	New York	NY	10022	Jun 28, 1977	Employee
Andrews	Waka	USA	Post Office Box 261	Minersville	PA	17954	Sep 13, 1967	Employee
Anker	Katsuaki	USA	2334 Strawberry Court	Woodstock	MD	21163	Jan 21, 1974	Employee
Bakhtiar	Joan	USA	82 Sycamore Court	Houston	TX	77005	Sep 15, 1976	Employee
Barnes	Steve	USA	40 Fox Chase Run	New York	NY	100172303	Apr 2, 1977	Employee
Bayri	John	USA	56 Viburnum Court	Morris Plains	NJ	07950	Mar 24, 1974	Employee
Bearse	Thomas	HKG	61 Runyon Drive	Lucky Plaza			May 16, 1977	Employee
Bell	Yasuko	USA	601 Bordentown Road	Laredo	TX	78041	Feb 5, 1978	Employee
Beltramo	Ronald	USA	6 James Court	Princeton	NJ	08540	Nov 9, 1978	Employee

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22. **Close** the Report Viewer.



23. **Save** the report as **Employees**.

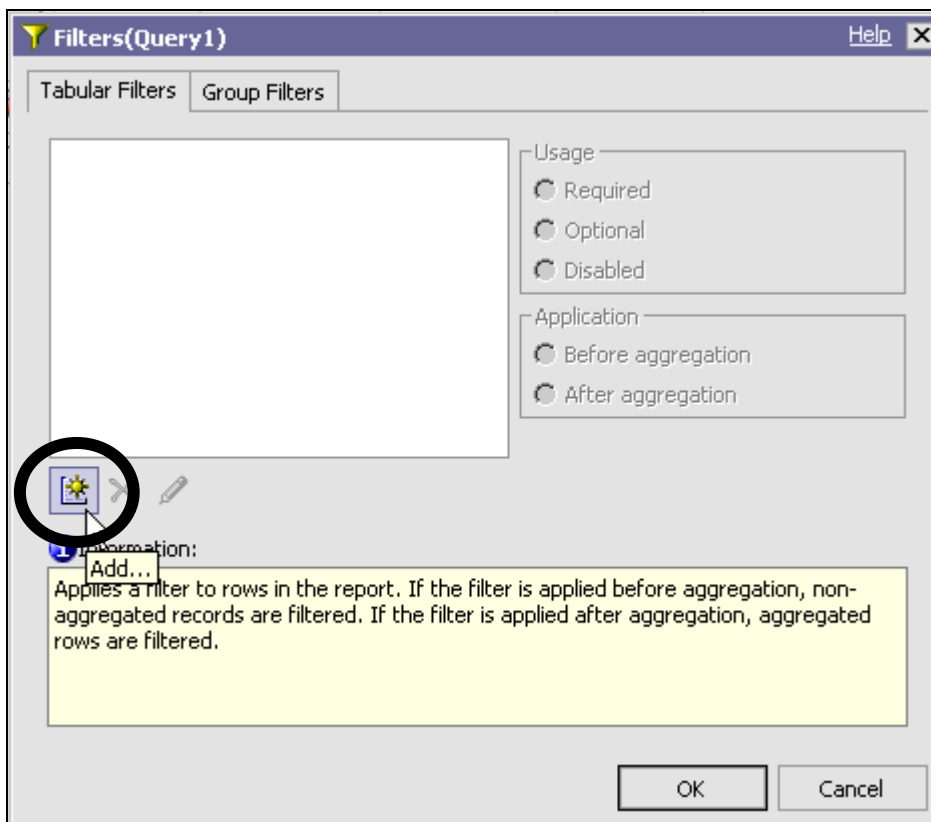
## Filtering on a Single Item from the Query (Query tab)

When creating reports that contain filters, it is common to show the column in the report that corresponds to the filtered subject. For instance, if you were filtering on Binoculars, generally you would show the Product type column to re-emphasize that the report is limited to just one product type.

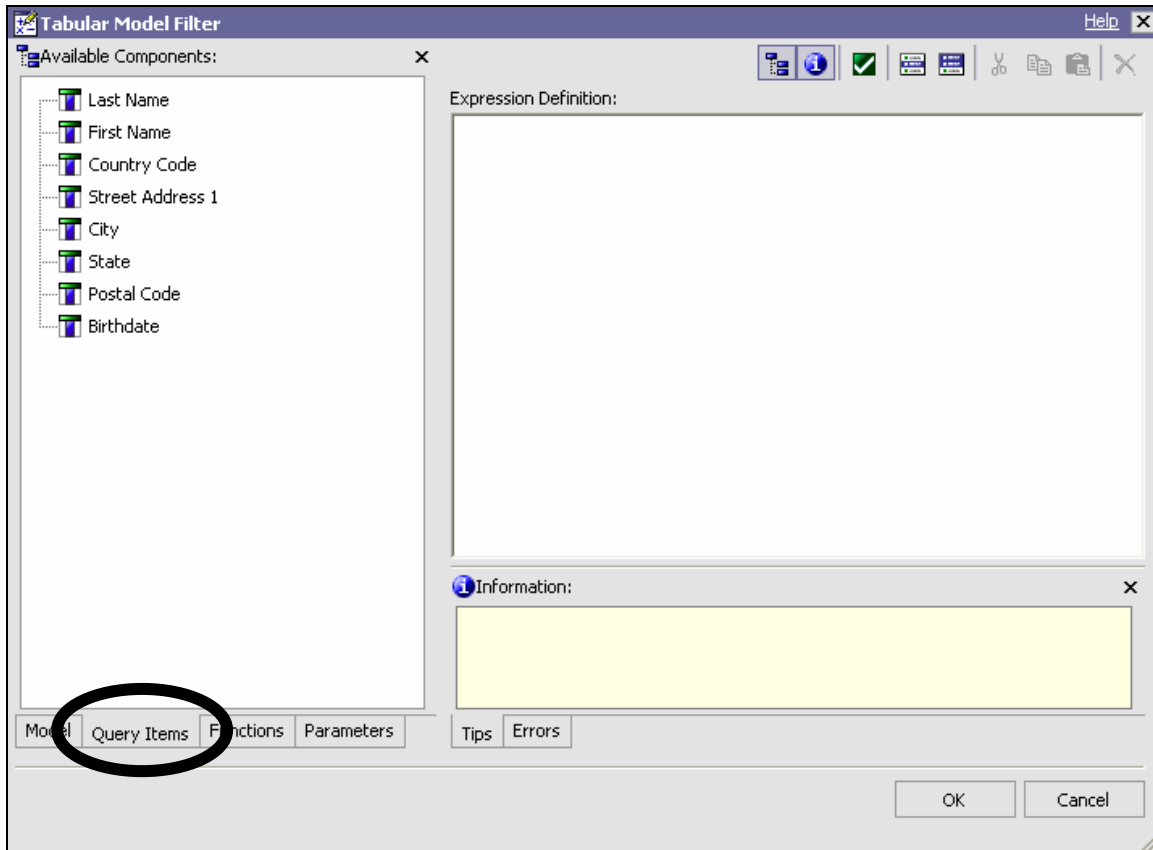
GOAL: To create a filter (Tabular) on Canada.

STEPS:

1. Open the **Pre Filter** report. Save the report as **Canada**.
2. Click the **Filters** icon  on the Toolbar.
3. Click the **Add** icon .

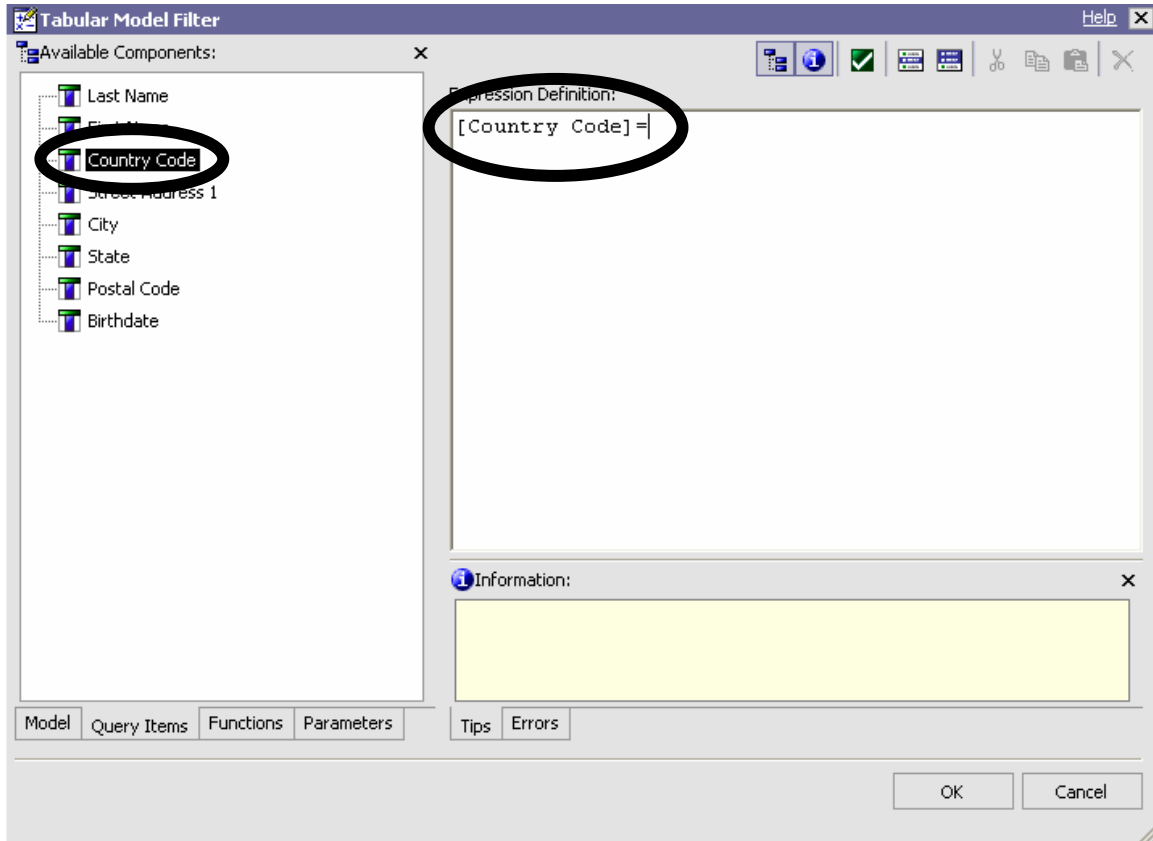


4. The Tabular Model Filter window opens.
5. Click the **Query Items** tab to display the data items used in the report query.



6. Double-click **Country Code**.

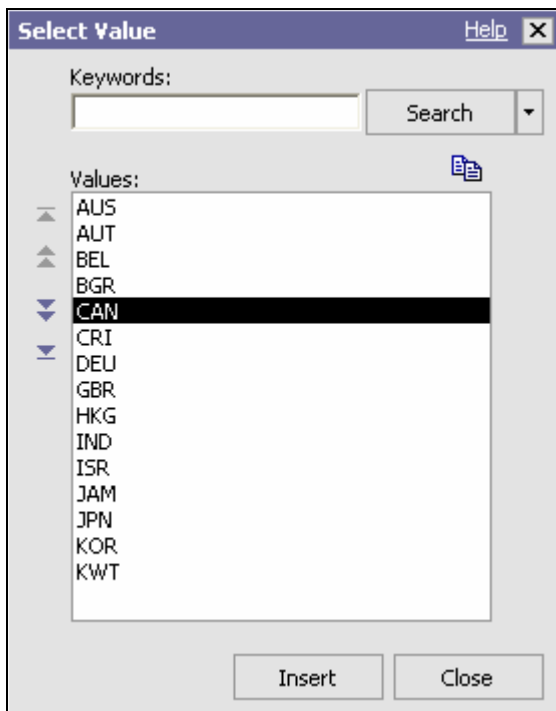
7. In the Expression Definition window, click the cursor at the end of the word Country Code and type an equal sign “=”.




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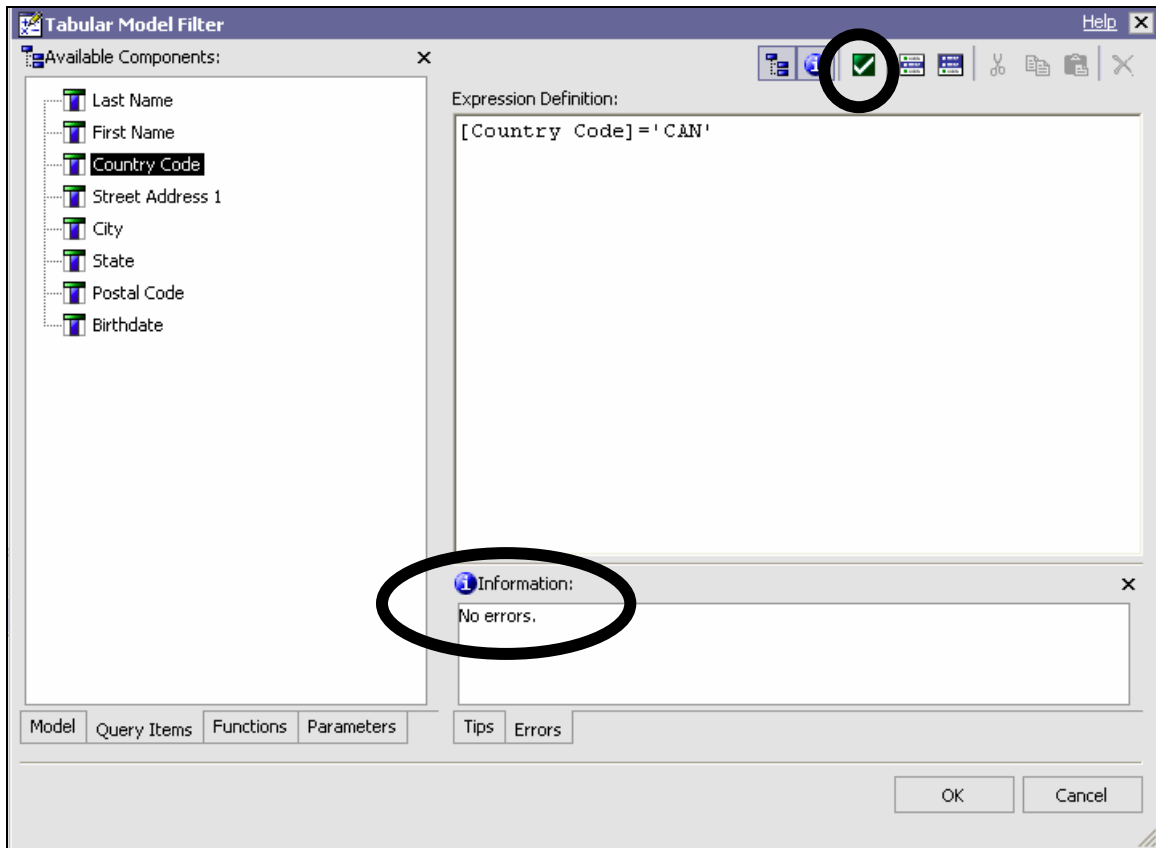
8. Click the **Select Value** icon .

9. In the Select Value window, click **CAN** for Canada.

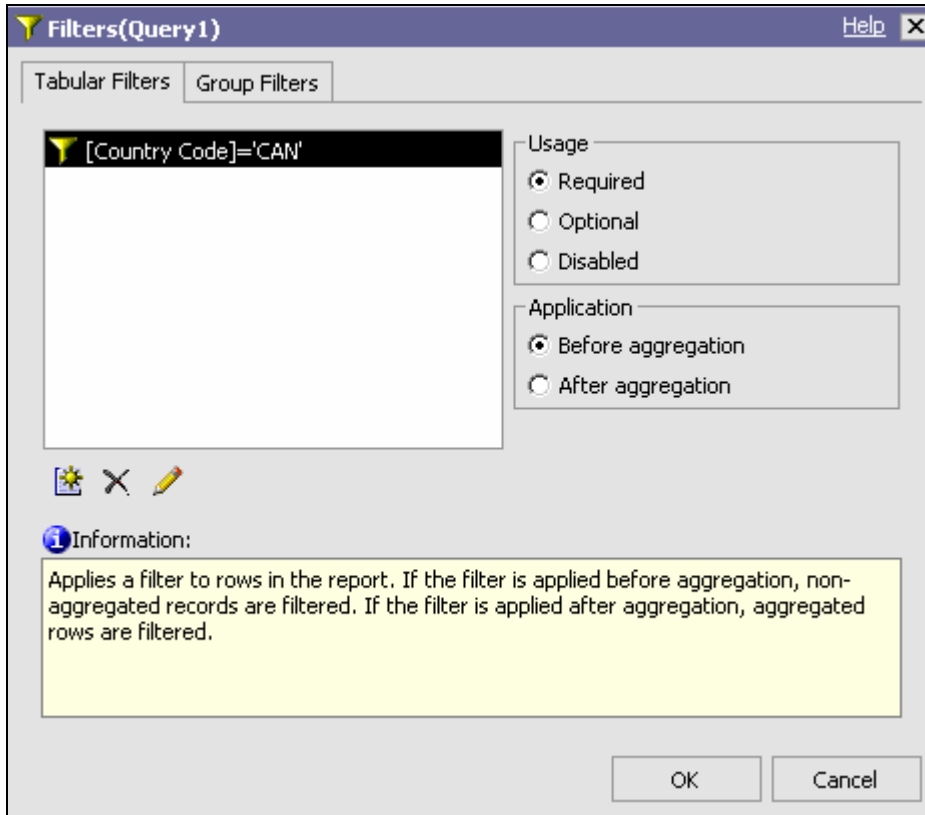


10. Click **Insert**.

11. In the Tabular Model Filter window, click the **Validate** icon . You should receive the “No errors” message.



12. Click **OK** and you will see the newly created filter.




13. Click **OK** to return to the report.



14. **Run** the report. When the report runs, you will only see the country of Canada.

Pamela Rubbo (prubbo@Princeton.EDU)

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Last Name	First Name	Country Code	Street Address 1	City	State	Postal Code	Birthdate
Anklam	Masako	CAN	304 Emmons Dr. 2a	Ottawa	ON	K1S1M9	Oct 21, 1979
Araneo	Eri	CAN	125 Hollow Oak Court	Saltspring Island	BC	V8K1J9	Jan 29, 1981
Belk	Pingfang	CAN	44 Highland Drive	Ottawa	ON	K1T4H6	Dec 31, 1974
Blakely	Brett	CAN	629 Scotch Road	West Vancouver	BC	V7V4S4	Aug 23, 1977
Butcosk	Zameer	CAN	100 Leigh Avenue	Milton	ON	L9T3B6	Jan 3, 1977
Chan	Mahomed	CAN	30 Powell Court	Oakville	ON	L6H2X1	Feb 13, 1980
Cristea	J.	CAN	22 Alta Vista Drive	Richmond	BC	V7A5C4	Jun 2, 1979
Deeba	Cecilia	CAN	53 Groveland Avenue	Toronto	ON	M4V1J5	Jan 28, 1981
Dombek	Alice	CAN	53 Whitehall Road	Toronto	ON	M8X1J6	Nov 28, 1975
Fink	Peter	CAN	3 College Road	Bedford	NS	B4A3V6	Mar 22, 1980
Fu	Harry	CAN	46 Lynn Court	Vancouver	BC	V5X3W4	Oct 16, 1978
Geller	Julie	CAN	717 East High Street	Pender Island	BC	V0N2M1	Aug 23, 1978
Gonzalez	Selcuk	CAN	22 Dogwood Lane	Guelph	ON	N1H2G3	Jun 16, 1980
Helms	Jussi	CAN	58 Stanworth Lane	Leduc	AB	T9E2X2	Sep 24, 1974
Hsu	Artemio	CAN	14 Colonial Court	Toronto	ON	M4V2L7	May 12, 1973
Jenkins	Dimitri	CAN	13 Cleveland Road West	Toronto	ON	M6B1L7	Jul 1, 1975
Johnson	Joyce	CAN	44 Manor Drive	Thornhill	ON	L4J2R7	Oct 15, 1977
Matsushima	Ken-Ichi	CAN	160 Patton Avenue	Stirling	ON	K0K3E0	Apr 4, 1978
McCans	Micheal	CAN	22 Moore Street	Toronto	ON	M2H1G6	Feb 16, 1981
McCarty	Kerry	CAN	69 West 9th Street	Richmond	BC	V7E5T5	Jul 8, 1969

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15. **Close** the Report Viewer.

16. **Save** the report.

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## Usage (Required, Optional, Disabled)

As mentioned in the concepts section at the beginning of the chapter, after a filter is created, there are three choices available: Required, Optional, and Disabled.

The previous report defaulted to Required. In other words, the filter that was created ([Country Code]='CAN') is required or necessary. However, the filtering option can be changed to Optional, or Disabled.

**Required** means the filter definition has to be used.

Choosing **Optional** means the filter does not have to be used in order for the report to run. In the case of a prompt, the report will run even if you do not choose anything from the prompt.

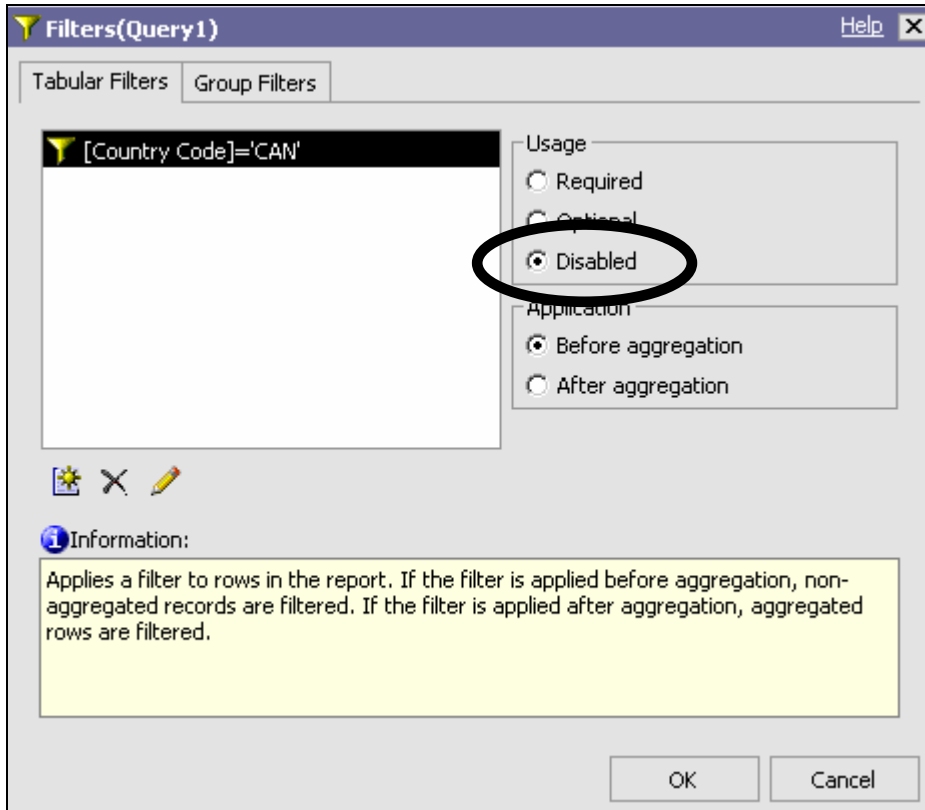
Choosing **Disabled** allows the user to run the report as if there was no filter. Therefore, debugging or trouble-shooting is easy and convenient as the filter is temporarily “turned off”.

**GOAL:** To disable the Country equals Canada filter.

**STEPS:**

1. Use the **Canada** report.
2. Click the **Filters** icon.
3. Make sure the **Tabular Filters** tab is selected.

4. **Highlight** the Canada filter. Under Usage, click **Disabled**.



5. Click **OK**.

6. **Run** the report and notice that all countries are showing.

Pamela Rubbo (prubbo@Princeton.EDU)

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Last Name	First Name	Country Code	Street Address 1	City	State	Postal Code	Birthdate
Aden	Hitoshi	USA	504 South 4th Avenue	Chester	NJ	07930	Sep 16, 1978
Adler	Meiko		486 Fairfield Road				Jun 16, 1980
Agyeman	Annette	USA	19 Shirley Lane	Erie	PA	16505	Apr 7, 1969
Ahearn	Amy	USA	77 Van Sant Drive	East brunswick	NJ	08816	Apr 20, 1971
Ahmad	Heinz-Dieter	USA	42 Rolling Lane	Palo Alto	CA	94306	Jan 31, 1978
Ahmed	Michael	USA	12 Shell Turn	Salina	KS	67401	Sep 26, 1973
Aidoo	Roy	USA	99 Chesterfield	Stone Harbor	NJ	08247	May 18, 1978
Alatalo	Thomas		150 Locust Ave.				Nov 22, 1966
Alexander	Jiping	USA	5 Tanager Lane	Golden Valley	MN	55416	Jan 18, 1978
Alyea	Mark	USA	3 Kirk Avenue	Princeton	NJ	08540	Apr 16, 1977
Amerian	Access	USA	713 Lake Drive	Lawrenceville	NJ	08648	May 22, 1965
Amobi	Maria	USA	116 Niagara Lane	Bloomfield Hills	MI	48301	Jan 30, 1975
Amon	Shiren	USA	9 Saylor Court	Woodside	CA	94062	Jul 11, 1979
Amon	Ze-Ke	USA	36 Juniper Row	Flower Mound	TX	75022	Dec 31, 1980
Andler	Gregory	USA	70 Clay Street	New York	NY	10022	Jun 28, 1977
Andrews	Waka	USA	Post Office Box 261	Minersville	PA	17954	Sep 13, 1967
Ang	Gerald	USA	133 Green Avenue	Huntington Station	NY	11746	Sep 4, 1979
Angelo	Christian	USA	Post Office Box 5863	Newberry	SC	29108	Oct 9, 1978
Anglin	Bryan	USA	11 Edgehill Street	Houston	TX	77024	Jun 28, 1979
Anker	Katsuaki	USA	2334 Strawberry Court	Woodstock	MD	21163	Jan 21, 1974

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7. **Close** the Report Viewer.

8. Change the filter back to **Required**.

## EXERCISE


- Use the **Canada** report.
- Save the report as **Gender**.
- Add **Gender Description** as a column
- In the Filter window, remove the **Country** filter.
- Create a filter on **Gender Description = Female**.
- **Save** the report.

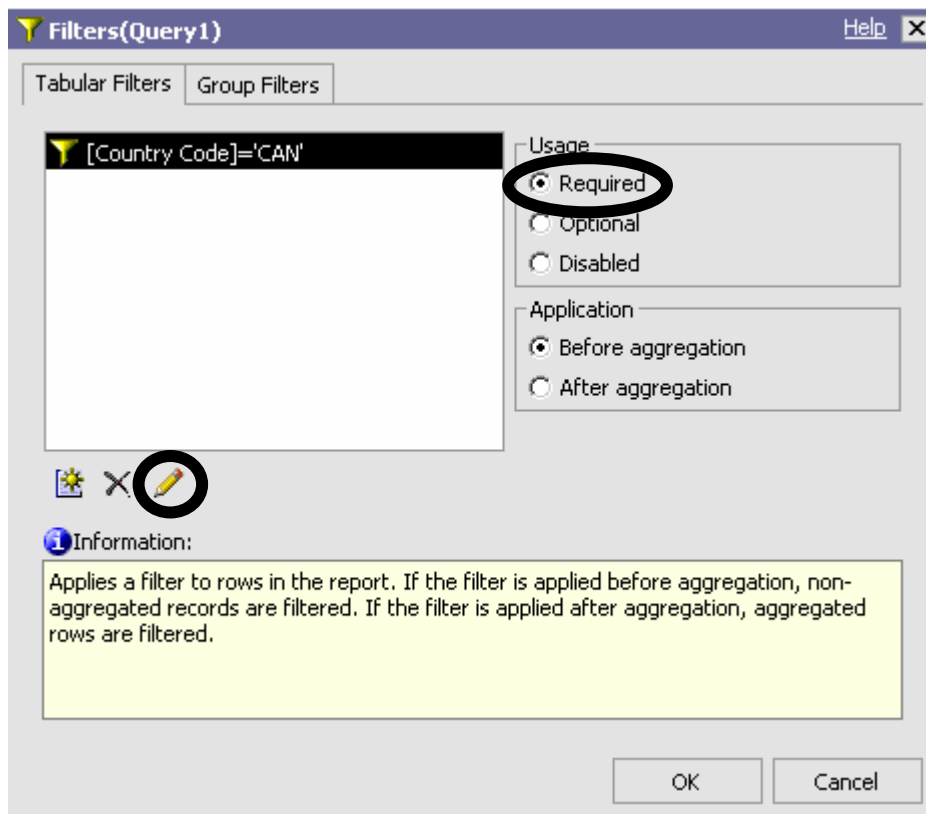
## Filtering on Multiple Items (Using “in”)

When using the equal sign “=”, the expression can only equal one item. However, if you want to create a filter that can look for multiple items, it is most effective to use an “in” statement that allows you to filter on multiple items.

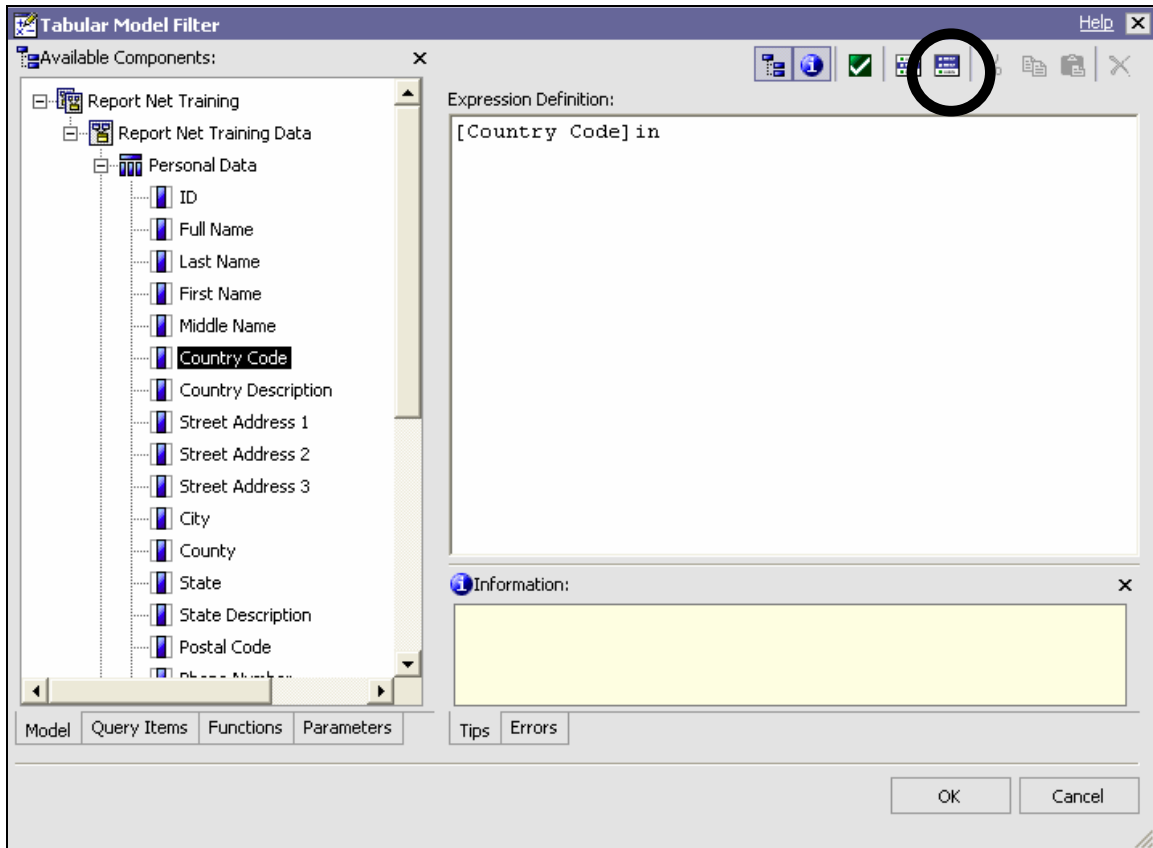
GOAL: To filter on several countries.

STEPS:


1. Open the **Canada** report.
2. Save the report as **Multiple Countries**.
3. Click the **Filter** icon.
4. From the **Tabular Filters** tab click on the **[Country]='Canada'** filter. Make sure the Usage is set to **Required**.
5. Click the **Edit** icon .

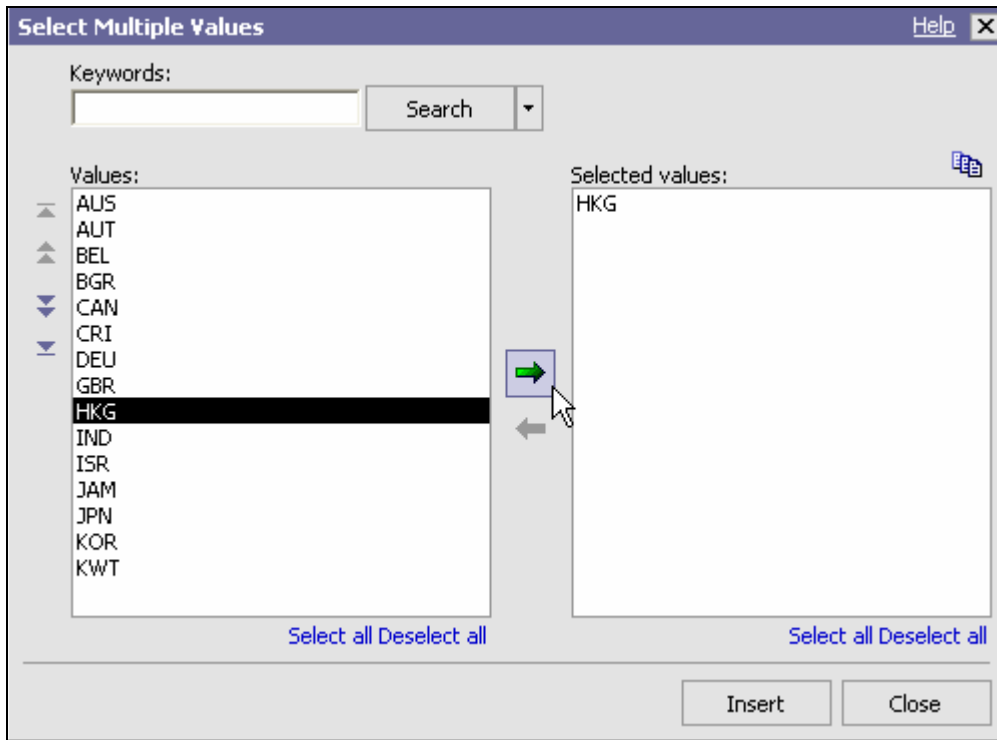


6. Place your cursor at the end of the current filter statement and delete **= 'CAN'**.
7. After Country Code, type **in**.

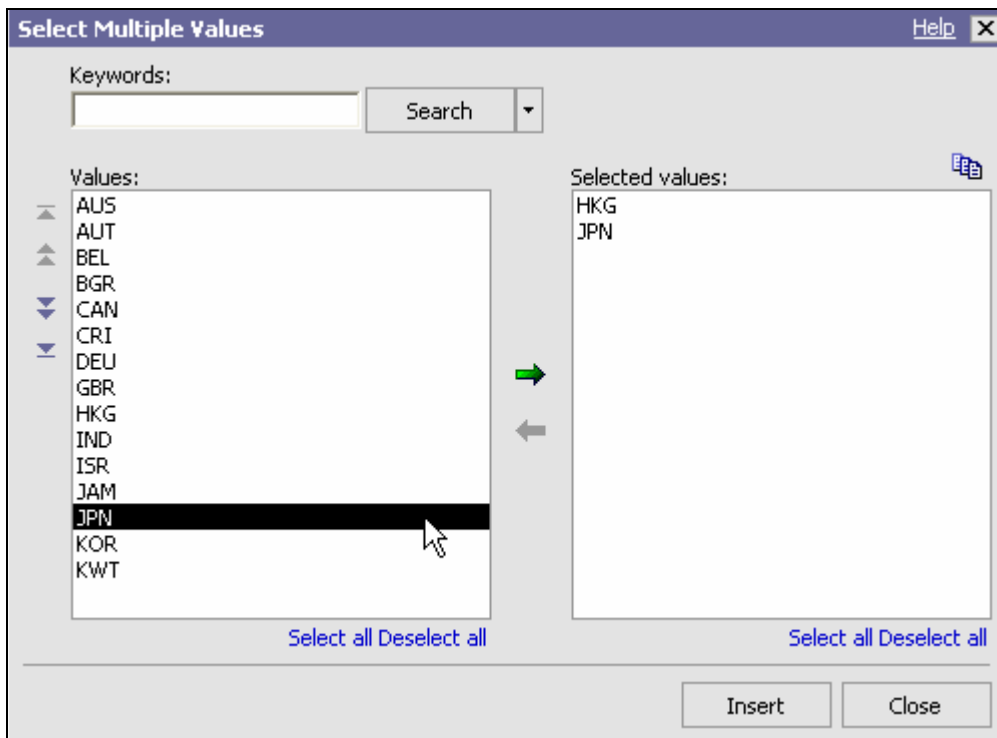


8. On the left, under Personal Data, click **Country Code** once and then click the **Select Multiple Values** icon .

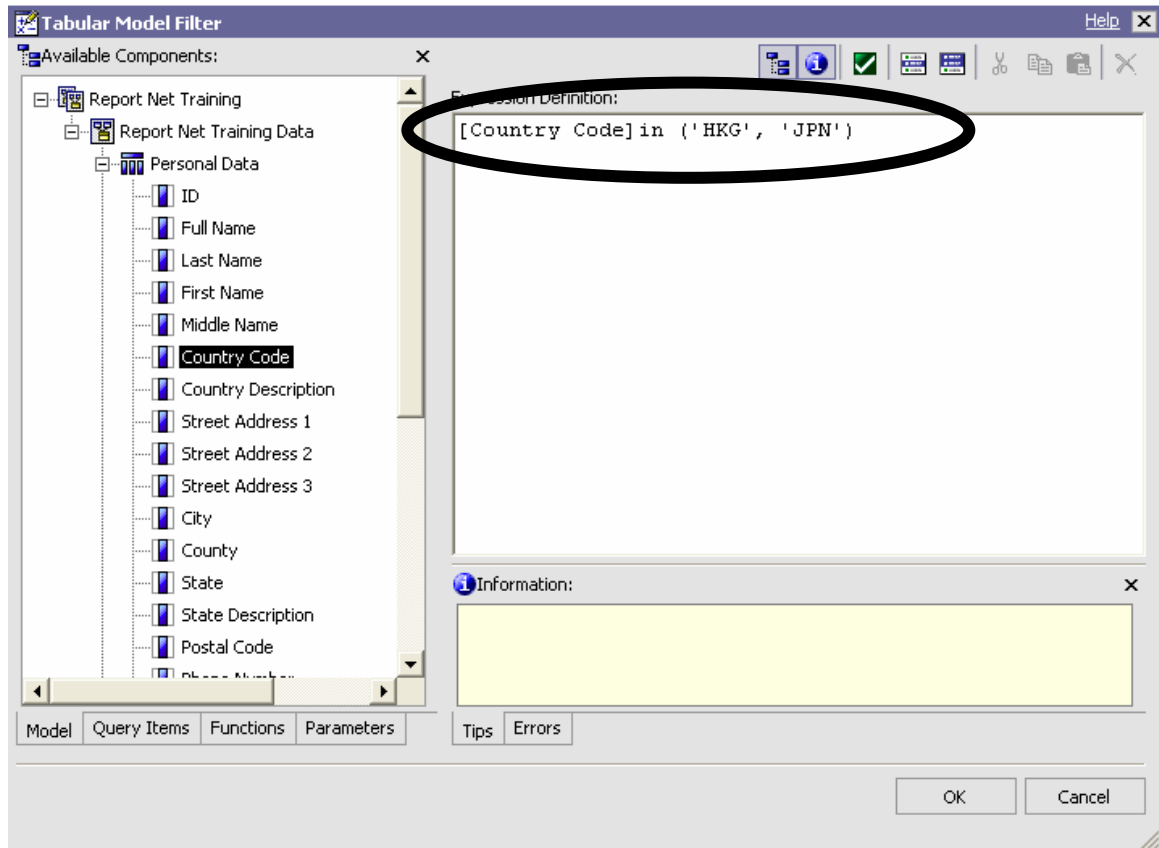
9. On the left side, highlight **HKG** and click the **Add** icon  to add Hong Kong to the right side.



10. On the left side, double-click **JPN** to add Japan to the right side.



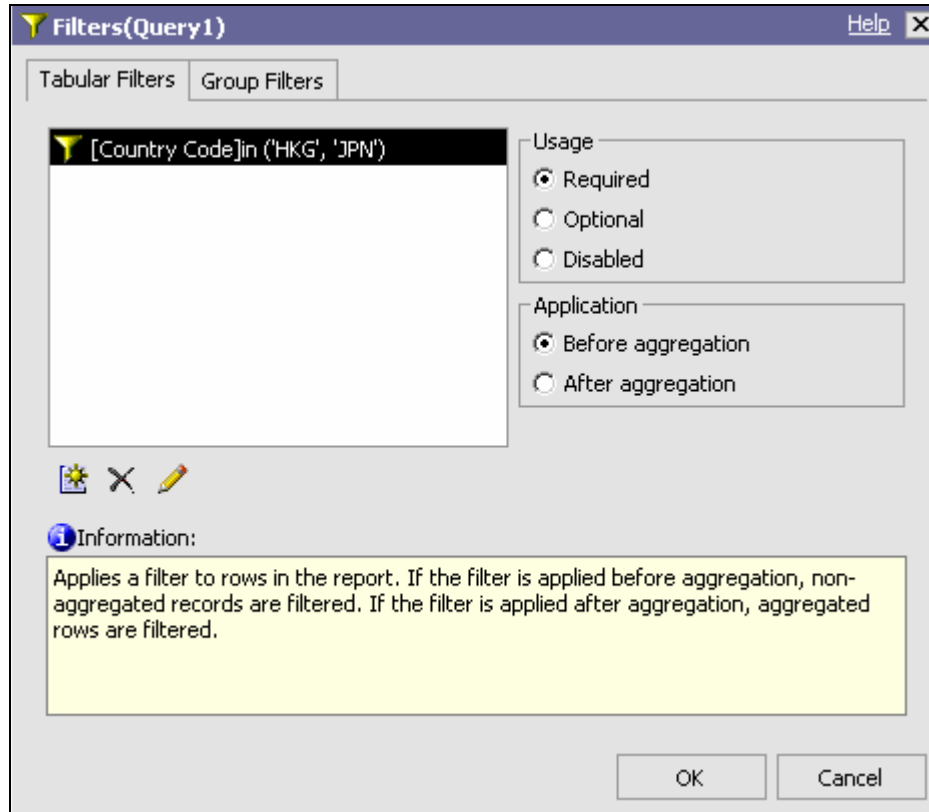
11. Click **Insert** and view the new filter definition.



12. Click **Validate**.



13. Click **OK** to view the filter in the Filters window.



14. Click **OK**.

15. **Run** the report. (Notice that only Hong Kong and Japan appear in the Country column.)

Pamela Rubbo (prubbo@Princeton.EDU)

Report Viewer [Close](#) [About](#)

Last Name	First Name	Country Code	Street Address 1	City	State	Postal Code	Birthdate
Bearse	Thomas	HKG	61 Runyon Drive	Lucky Plaza			May 16, 1977
Ishikawa	Hitoshi	JPN	0382 3 Frist Campus Center	Kure-shi, Hiroshima		737-0051	Mar 29, 1979
Scott	Carlos	JPN	23 Sycamore Way	Tokyo 157007			Oct 20, 1973
Thompson	Burnchul	HKG	19 Union Street	Happy Valley	HK		Dec 11, 1977
Whittington	Lucas	HKG	6231 Wyndhurst Drive	Hong Kong			Dec 2, 1975
Woodbridge	Dinorah	JPN	2304 Deer Creek Drive	Wako-City	11	351-0111	Apr 27, 1976

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16. **Close** the Report Viewer.

17. Click **Save**.

## EXERCISE

Using the current report:

- Change the filtered countries to two of your choice.

**Tip:** You can type the values directly into the Expression Definition.

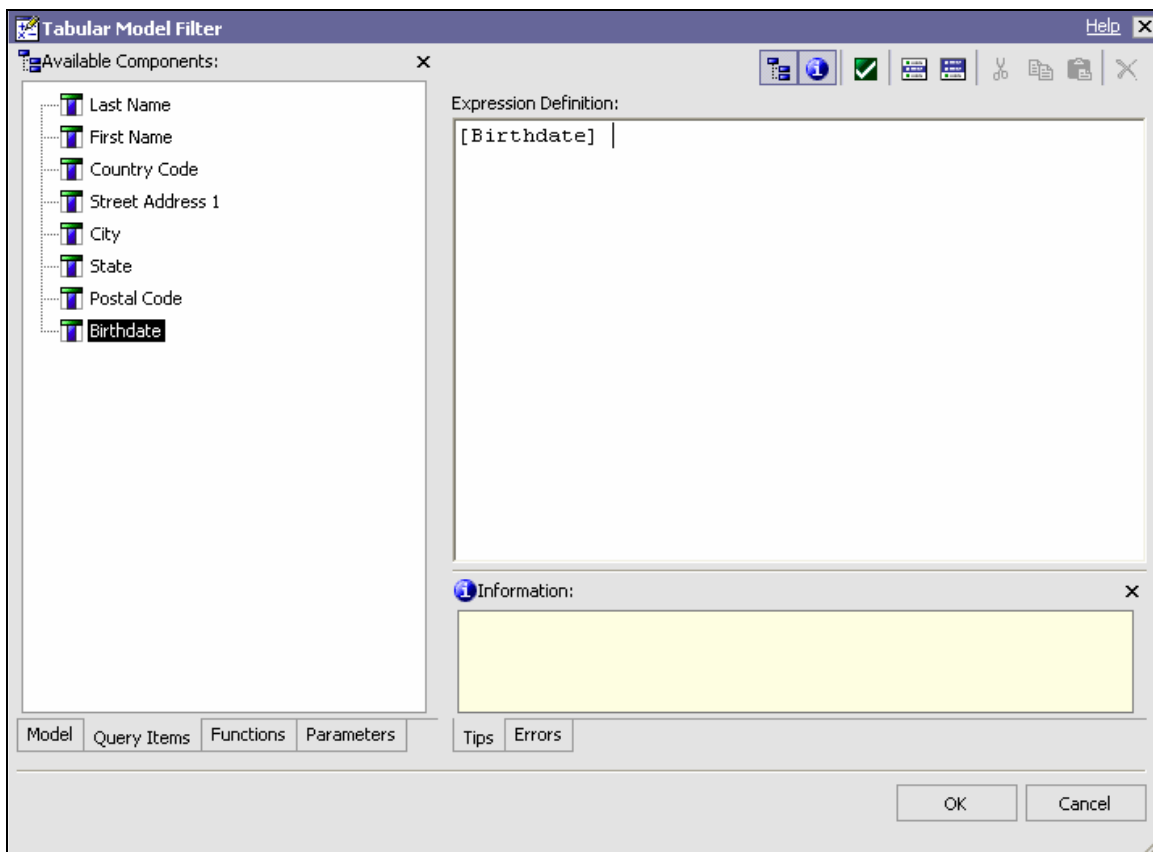
## Filtering on a Date Range (Using “between”)

The “between” expression allows the user to look for anything that happened within a range of dates, such as a beginning and an ending date.

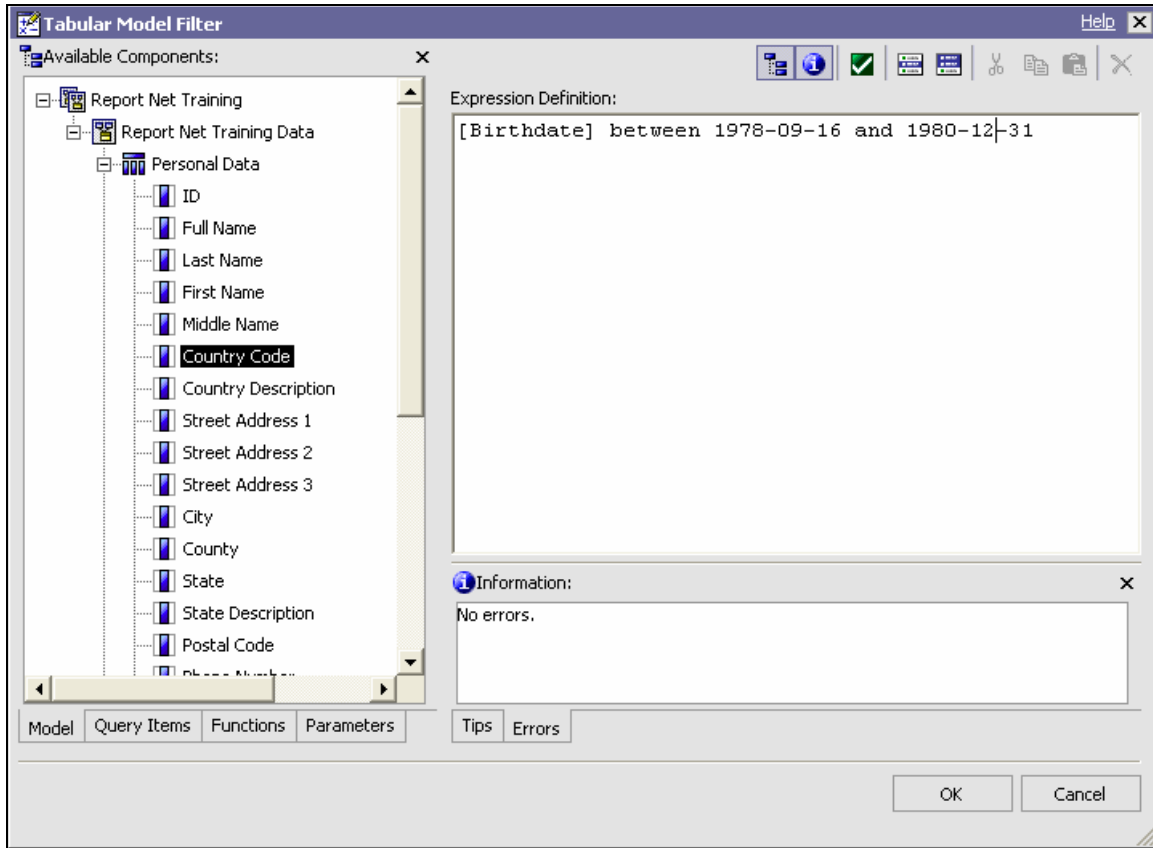
GOAL: To filter on a range of dates.

STEPS:

1. Open the **Pre-Filter** report and save it as **Filter by Dates**.
2. Click the **Filter** icon.
3. Click the **Add** icon.
4. From the **Query Items** tab, double-click **Birthdate**
5. Click the **cursor** at the end of the Expression Definition and type a **space**.



6. Type the following: **between 1978-09-16 and 1980-12-31**.



7. Click **Validate** to make sure there are no errors.

8. Click **OK**.

9. Click **OK** to close the Filters window.

10. **Run** the report.

Pamela Rubbo (prubbo@Princeton.EDU)

**Report Viewer** Close About

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Last Name	First Name	Country Code	Street Address 1	City	State	Postal Code	Birthdate
Aden	Hitoshi	USA	504 South 4th Avenue	Chester	NJ	07930	Sep 16, 1978
Adler	Meiko		486 Fairfield Road				Jun 16, 1980
Amon	Shiren	USA	9 Saylor Court	Woodside	CA	94062	Jul 11, 1979
Amon	Ze-Ke	USA	36 Juniper Row	Flower Mound	TX	75022	Dec 31, 1980
Ang	Gerald	USA	133 Green Avenue	Huntington Station	NY	11746	Sep 4, 1979
Angelo	Christian	USA	Post Office Box 5863	Newberry	SC	29108	Oct 9, 1978
Anglin	Bryan	USA	11 Edgehill Street	Houston	TX	77024	Jun 28, 1979
Anklam	Masako	CAN	304 Emmons Dr. 2a	Ottawa	ON	K1S1M9	Oct 21, 1979
Arad	Herbert	USA	2 South Rosborough Ave	Los Angeles	CA	90066	Jun 4, 1979
Arnheim	Charles	USA	74 Deacon Drive	Hana	HI	96713	Oct 1, 1979
Arnold	Howard	USA	10 Poland Street	Bradenton	FL	34209	Feb 21, 1980
Austin	Geoffry	USA	45 Laurel Road	Houston	TX	77059	Feb 26, 1979
Badgaiyan	George	USA	448 Centre Street	Tinton Falls	NJ	07724	Jul 16, 1979
Barrett	Rahma	USA	25 Penn Lyle Road	Nashville	TN	37205	Oct 11, 1978
Beare	Bruce	USA	207A Kingston Terrace Drive	Rancho Palos Verdes	CA	90275	Jan 4, 1979
Behrens	Serge	USA	31 Gervin Road	Columbus	OH	43220	May 7, 1979
Beltramo	Ronald	USA	6 James Court	Princeton	NJ	08540	Nov 9, 1978
Ben Aicha	Yoryis	USA	2340 Princeton Pike	Washington	DC	20007	May 12, 1980
Bennett	Wojciech	USA	68 Magnolia Lane	Lutherville	MD	21093	May 22, 1979
Bentkowski	August	USA	15 Christopher Avenue	Bozeman	MT	59715	Sep 11, 1979

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**Note:** Although the word “between” is used, it actually includes the beginning and end date that is in the expression. September 16, 1978 and December 31, 1980 are included in the filter.

11. Close the **Report Viewer**.

12. **Save** the report as **Between**.

## Filtering Text (Using “starts with” and “contains”)

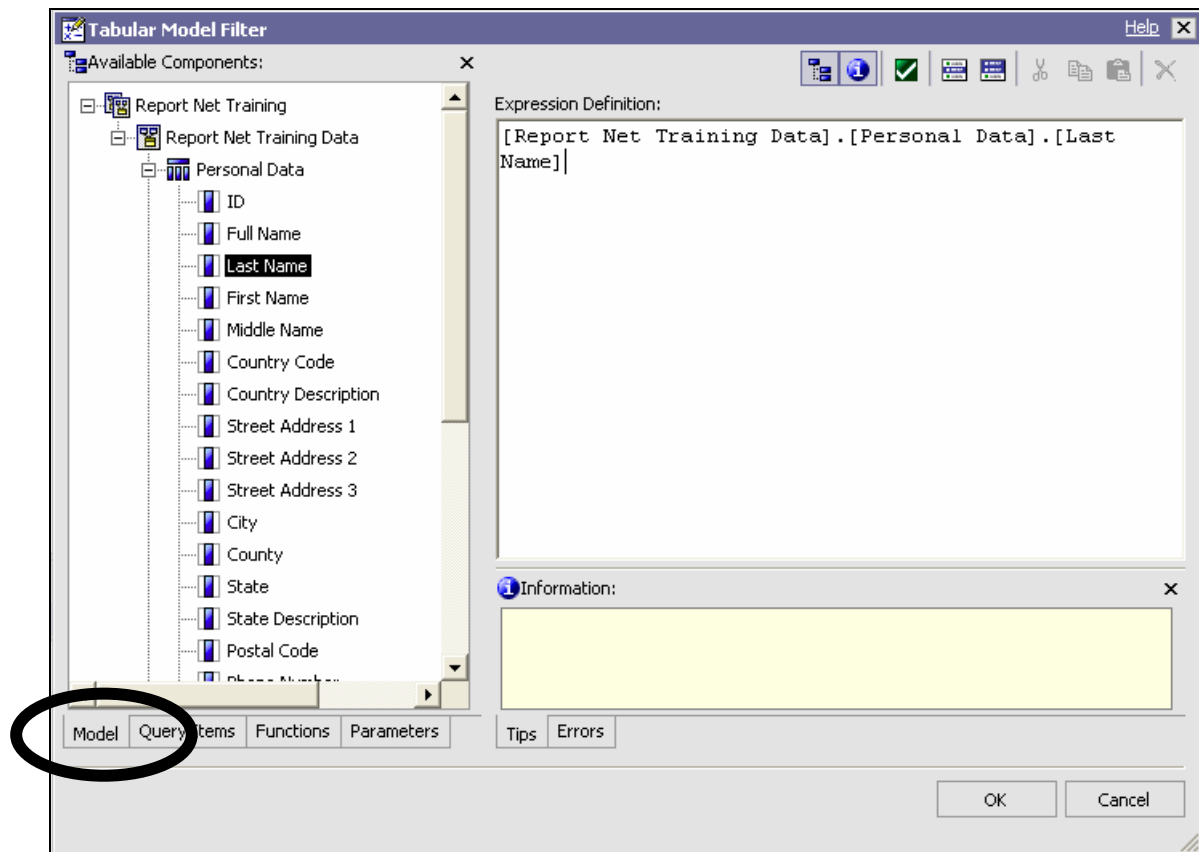
The “starts with” and “contains” operators are very useful if you are not sure how to spell the entire name or if you know only a portion of the name.

**To filter using starts with:**

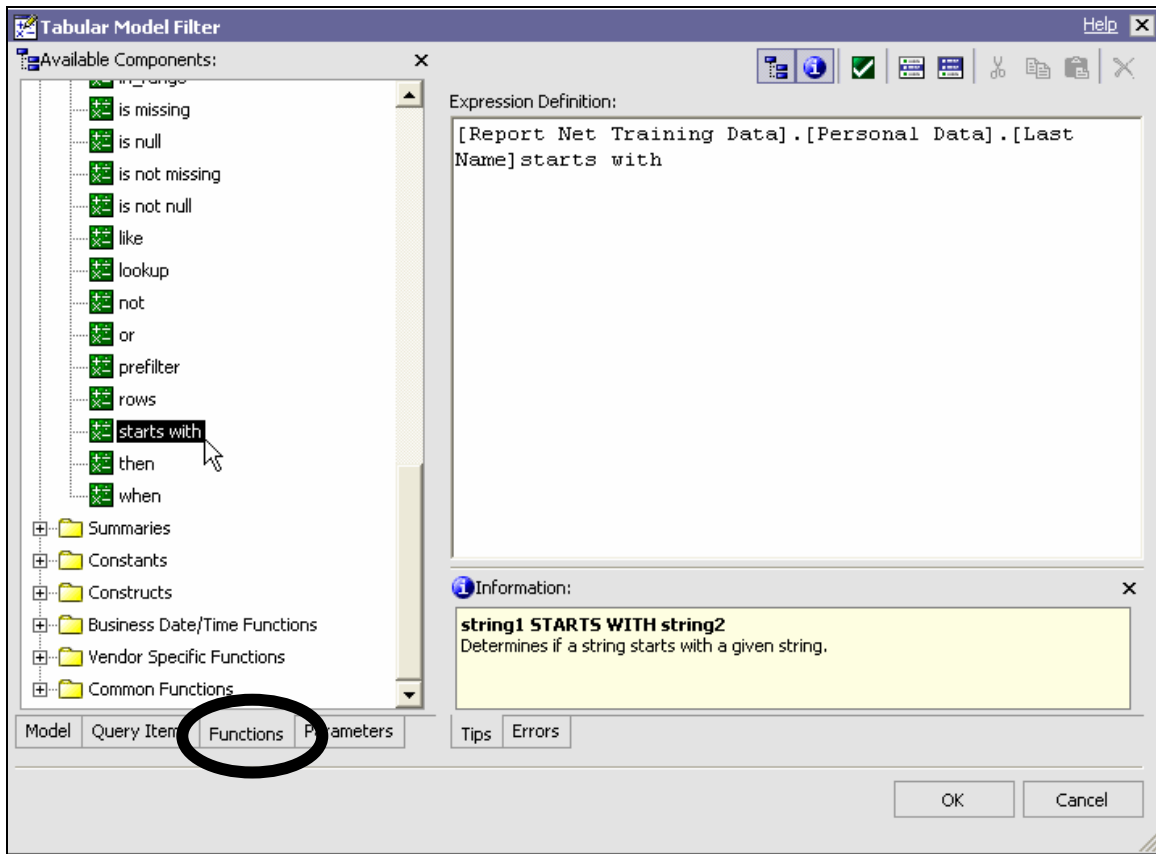
GOAL: To find all the last names that starts with ‘am’.

STEPS:

1. Open the **Pre Filter** report and save it as **Filter Starts With**.
2. Click the **Filters** icon.
3. In the Filters window, click the **Add** icon.
4. From the **Model** tab, double-click **Last name**.

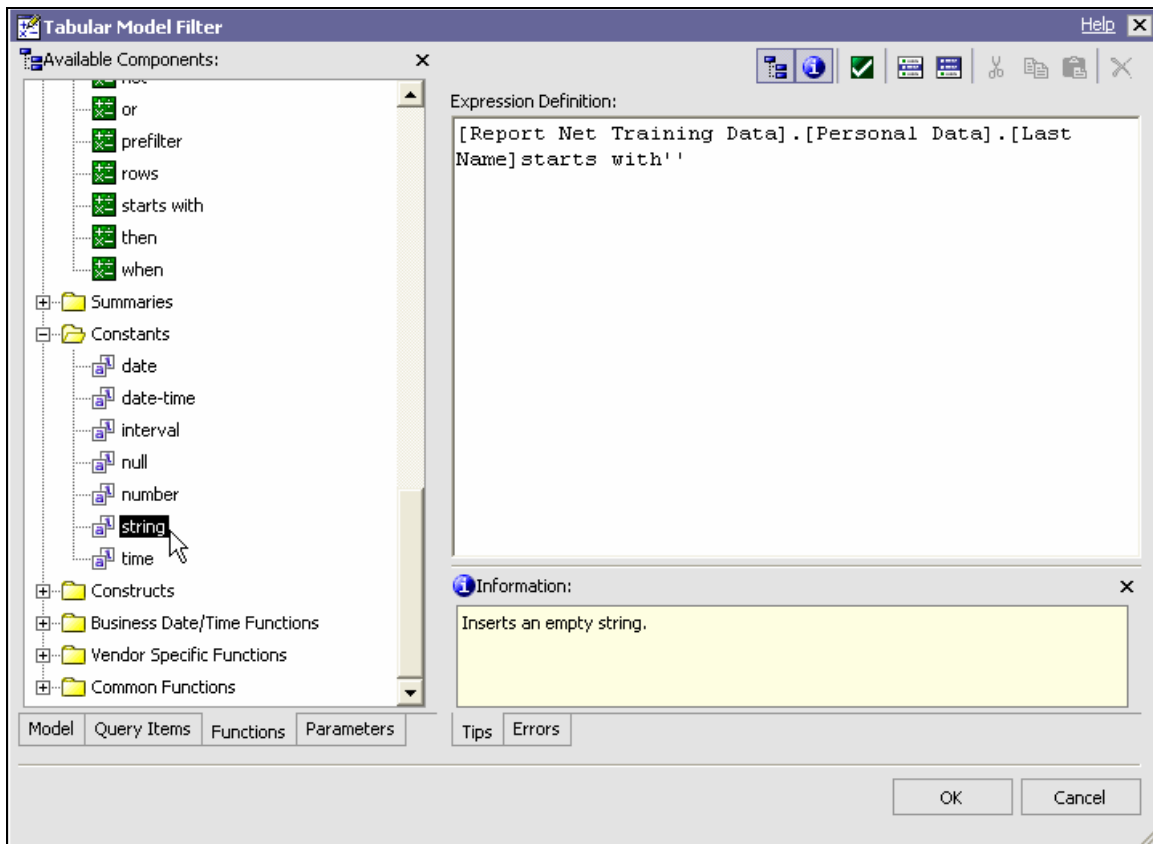


5. Click the cursor in the **Expression Definition** after **[Last name]**.
6. Click the **Functions** tab and expand the **Operators** folder.
7. Double-click **starts with**.



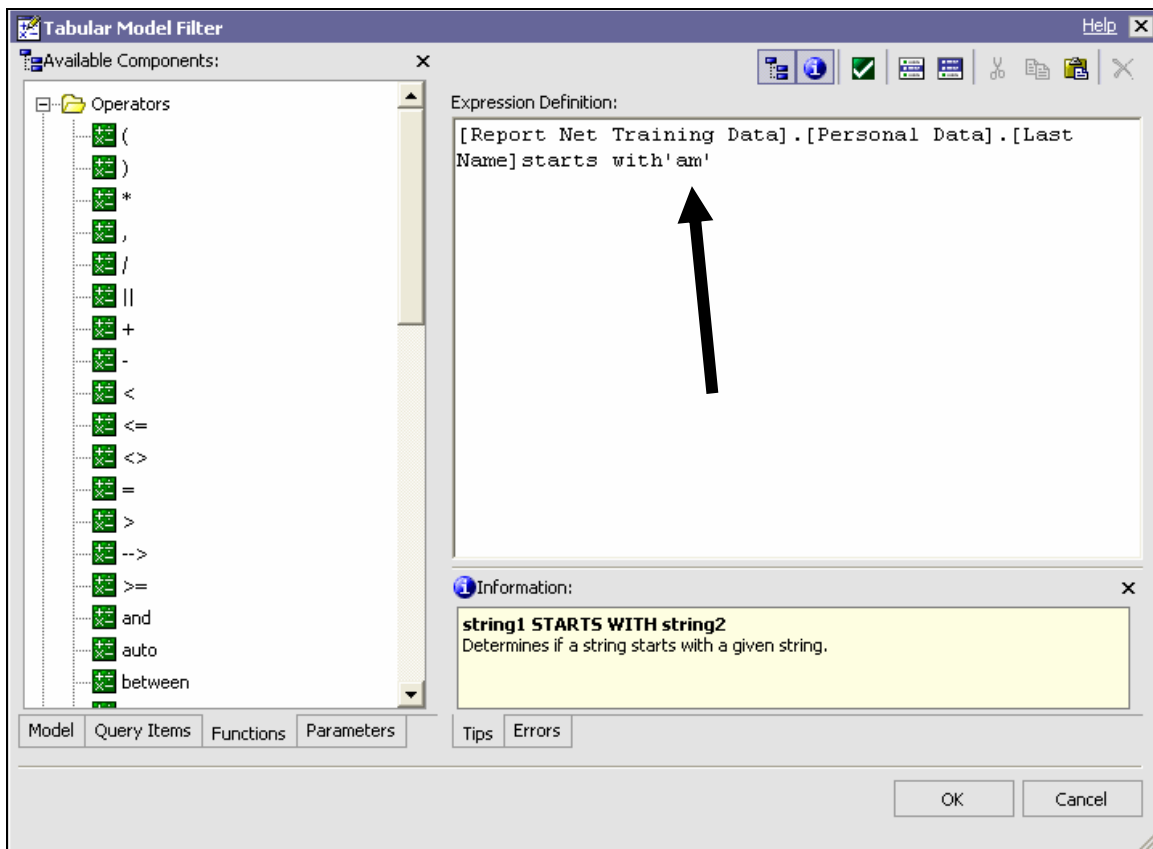
8. Click the cursor in the **Expression Definition** after **starts with**.
9. Open the **Constants** folder.
10. Double-click **string** to add a set of single quotes after “starts with”.

***Note:** Last name is a text field; therefore, you must use the single quotes around the text.*



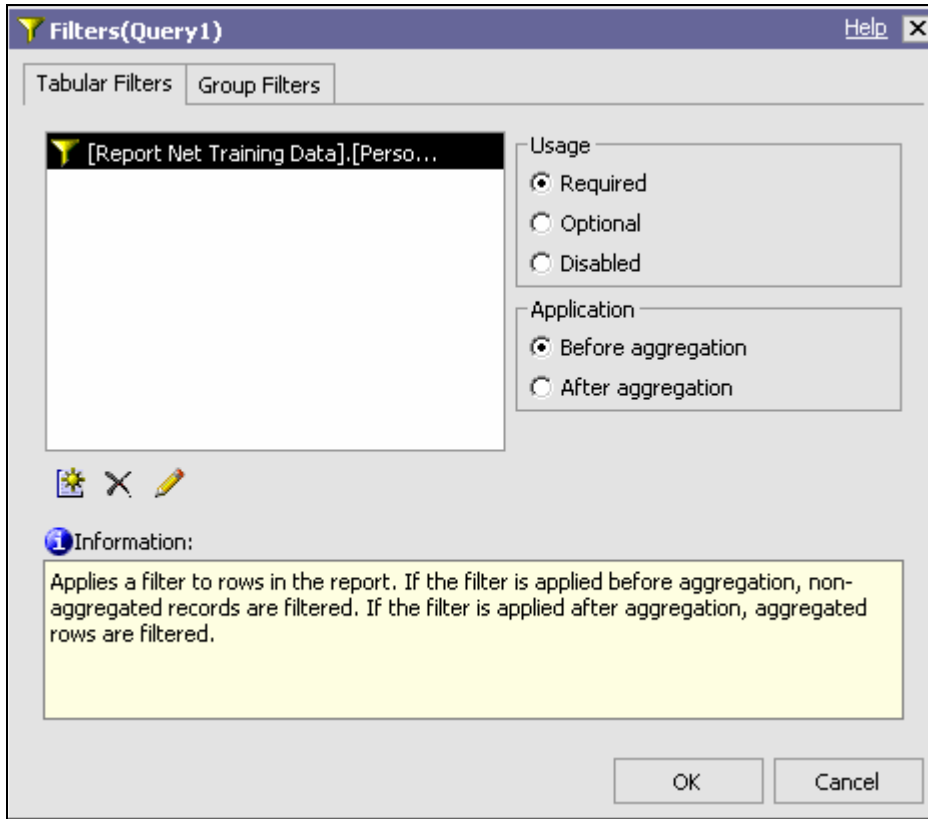


11. Click the cursor between the **single quotes**.
12. Type **am**.



13. Click the **Validate** icon.

14. If there are no errors, click **OK** to see the newly created filter.



15. Click **OK**.

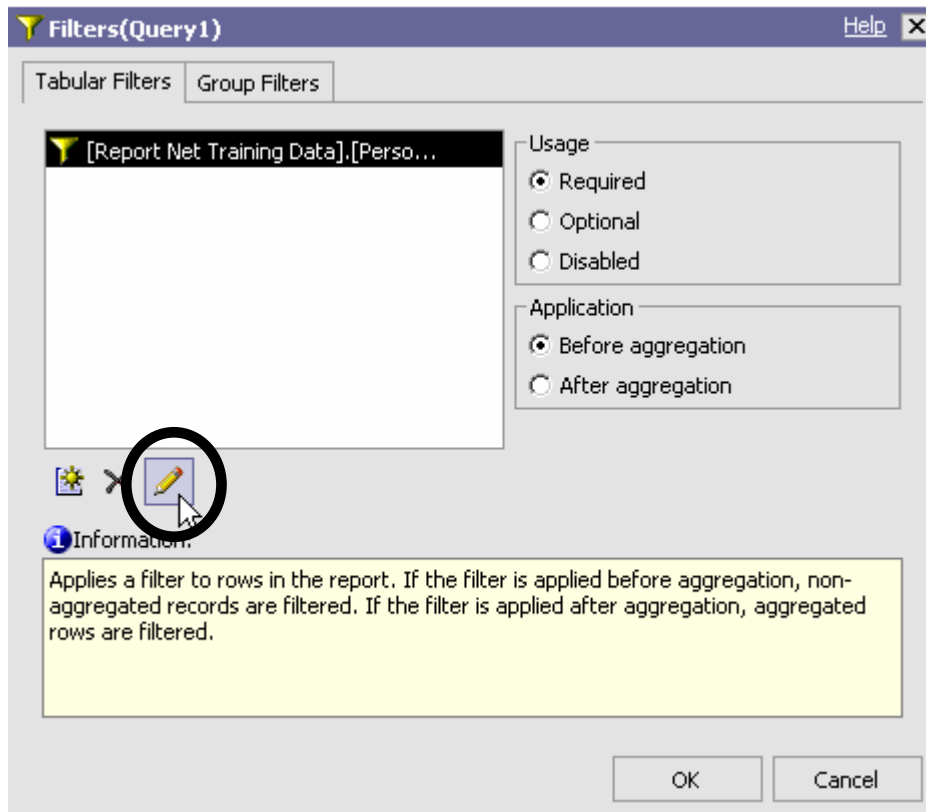
16. **Run** the report to see all the people whose last name starts with ‘am’. The report returns no data because the first letter of the Last Name is in upper case. We must change the filter so that names beginning with “Am” are found.



17. **Close** the report viewer.

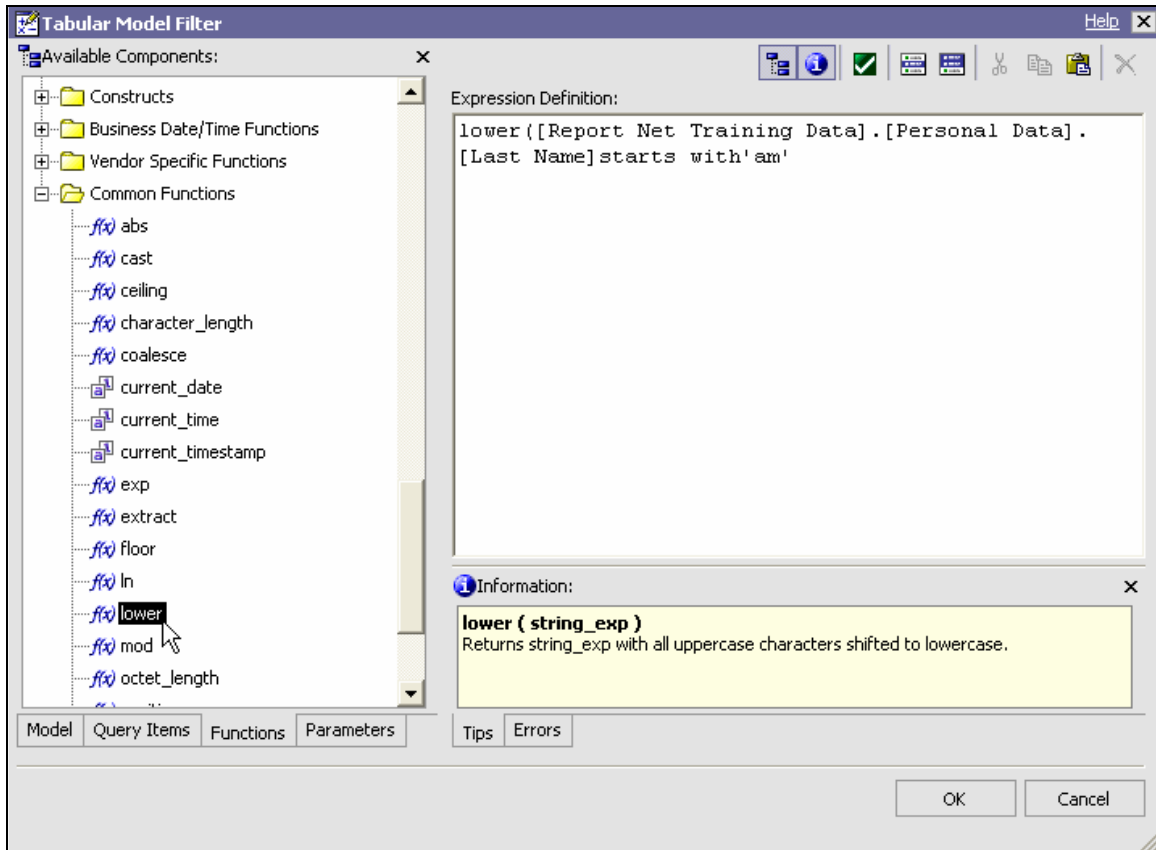
18. Click the **Filters** icon.

19. Make sure the filter is highlighted and then click **Edit**.



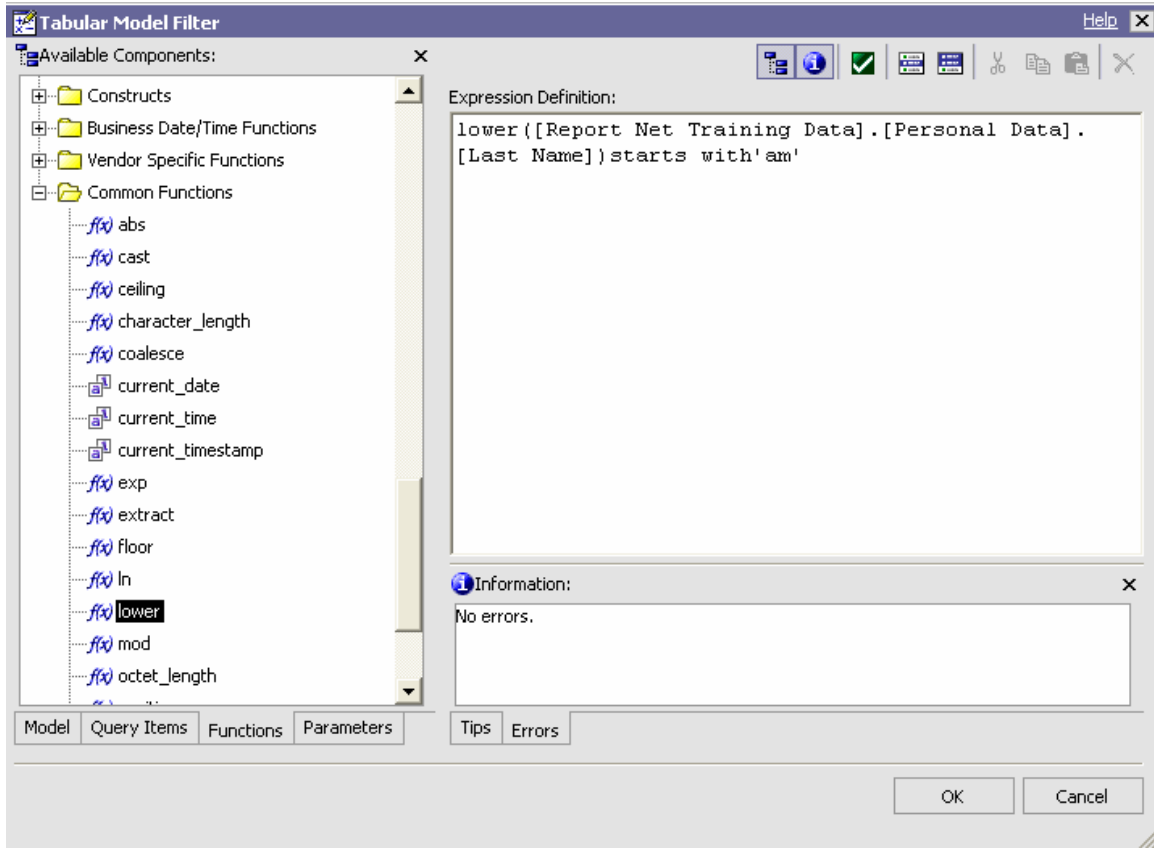
20. Click the cursor in front of **[Report Net Training Data].[Personal Data].[Last Name]**.

21. Click the **Functions** tab and open the **Common Functions** folder.
22. Scroll down and double click on **lower**.

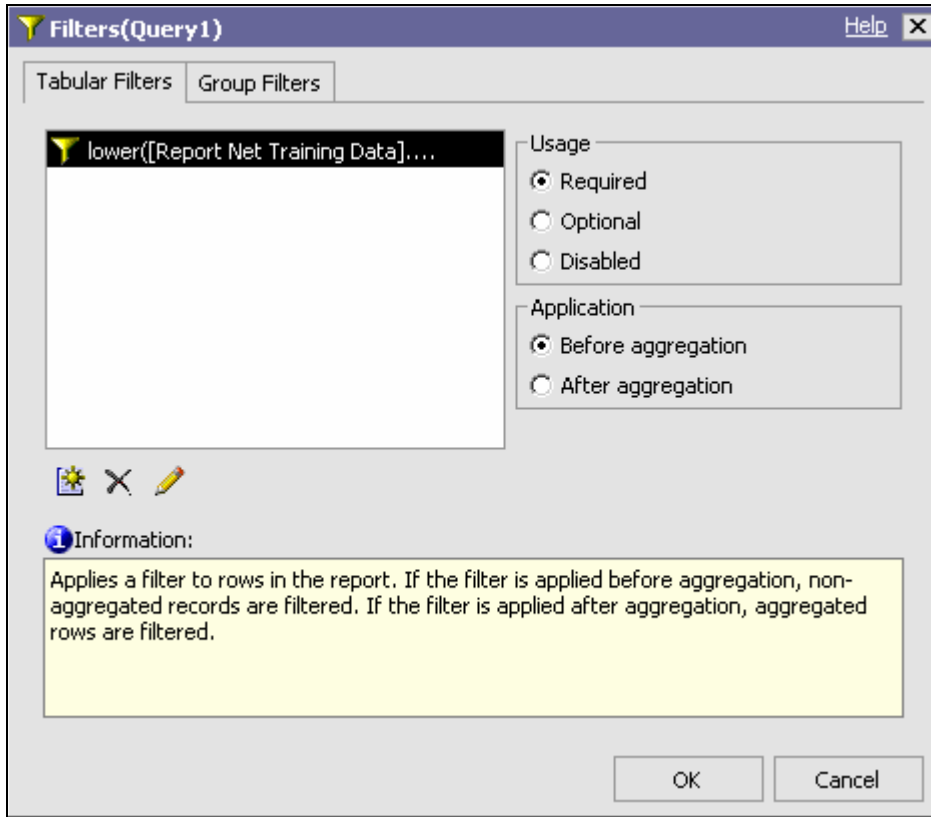


23. Click the cursor after **Last Name]** and type a ).

24. Click the **Validate** icon and confirm there are no errors.



25. Click **OK** and view the new filter.



26. Click **OK** again.

27. **Run** the report. The report now shows last names beginning with ‘Am.’”



Pamela Rubbo (prubbo@Princeton.EDU)  
Report Viewer Close About

Last Name	First Name	Country Code	Street Address 1	City	State	Postal Code	Birthdate
Amerian	Access	USA	713 Lake Drive	Lawrenceville	NJ	08648	May 22, 1965
Amobi	Maria	USA	116 Niagara Lane	Bloomfield Hills	MI	48301	Jan 30, 1975
Amon	Shiren	USA	9 Saylor Court	Woodside	CA	94062	Jul 11, 1979
Amon	Ze-Ke	USA	36 Juniper Row	Flower Mound	TX	75022	Dec 31, 1980

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28. Click **Save**.

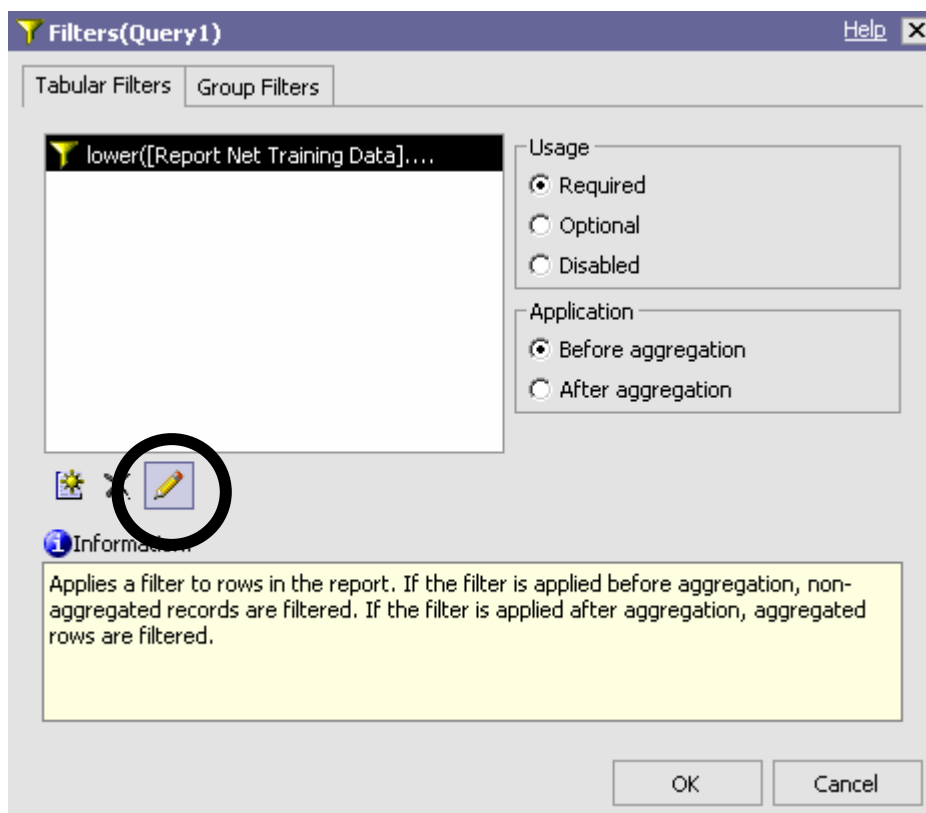


**To filter using contains:**

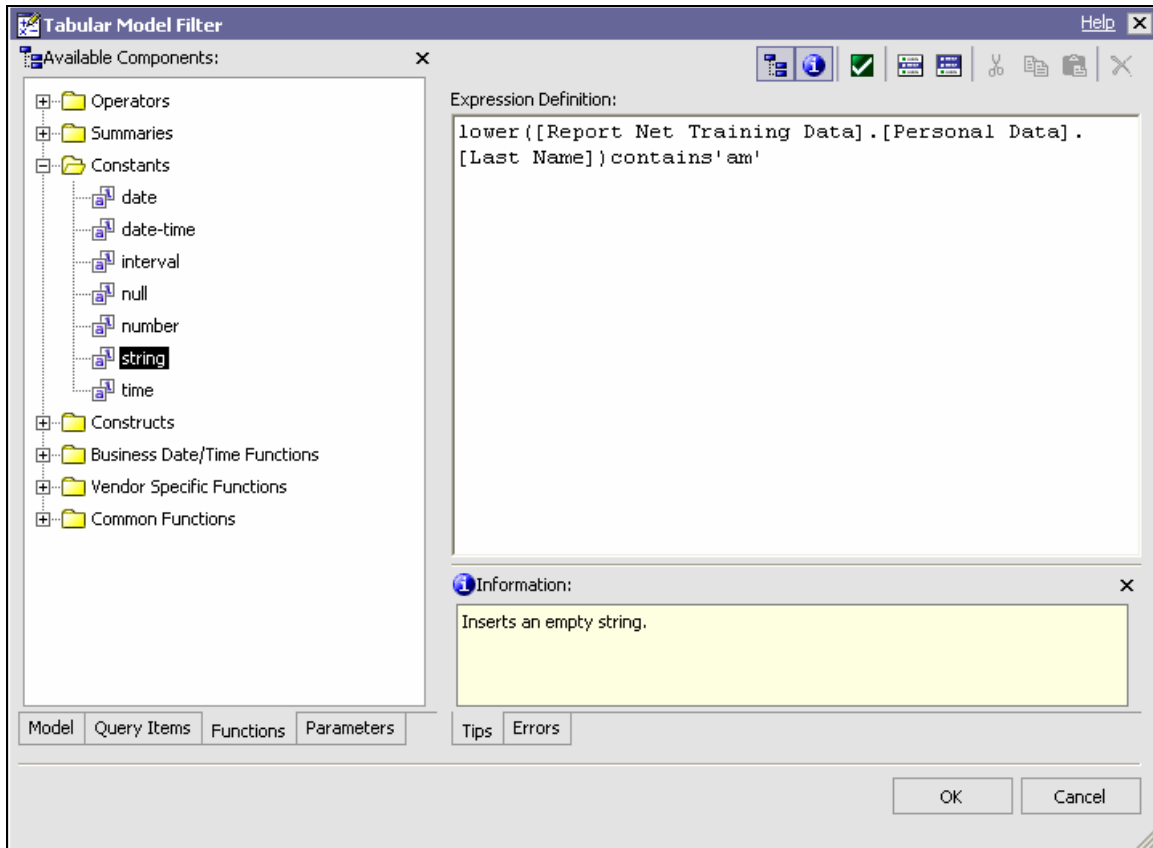
GOAL: To filter the report to find all the last names which contain “am”.

**STEPS:**

1. Using the current report, **Save As: Filter with Contains**.
2. Click the **Filters** icon.
3. In the Filters window, make sure the current filter is highlighted and click the **Edit** icon.



4. Delete the last part of the current filter, “**starts with ‘am’**”.
5. From the **Functions** tab, open the **Operators** folder, and double-click **contains**.
6. Open the **Constants** folder and double-click **string**.
7. Click the cursor between the single quote marks and type **am**.
8. Click the **Validate** icon and make sure there are no errors.



9. Click **OK**.
10. Click **OK**.

11. **Run** the report to see all the last names that contain 'am'.

*Note: Last names that start with 'Am' as well as last names containing 'am' are included.*

Last Name	First Name	Country Code	Street Address 1	City	State	Postal Code	Birthdate
Amerian	Access	USA	713 Lake Drive	Lawrenceville	NJ	08648	May 22, 1965
Amobi	Maria	USA	116 Niagara Lane	Bloomfield Hills	MI	48301	Jan 30, 1975
Amon	Shiren	USA	9 Saylor Court	Woodside	CA	94062	Jul 11, 1979
Amon	Ze-Ke	USA	36 Juniper Row	Flower Mound	TX	75022	Dec 31, 1980
Anklam	Masako	CAN	304 Emmons Dr. 2a	Ottawa	ON	K1S1M9	Oct 21, 1979
Beltramo	Ronald	USA	6 James Court	Princeton	NJ	08540	Nov 9, 1978
Buckingham	Jack	USA	32 Steinmetz Road	Buffalo	NY	14214	Jul 8, 1975
Chatham	Hans	USA	1026 Trenton Avenue	Owings Mills	MD	21117	Jan 12, 1977
Chueykamhang	Dawn	USA	455 Ewing Street	Bryan	TX	77802	Mar 18, 1975
Cramer	Chuan-Hsing	USA	132 Griggs Drive	Alpine	NJ	07620	Jun 3, 1977
Cunningham	Anthony	DEU	300 Appletree Drive	Dusseldorf		40237	Dec 22, 1979
Diamondstone	Cornelius	USA	215 North Main Street	Washington	DC	20007	May 10, 1971
Fambrough	Richard	USA	Po Box 604	Westbury	NY	11590	May 18, 1977
Graham	Rachel	USA	142 Ellisdale Road	Newnan	GA	30263	Dec 22, 1974
Graham	Reni	USA	40 Zieglers Lane	Florissant	MO	63031	May 29, 1976
Graham-Willis	Douglas		29 Lytle Street				Aug 8, 1969
Hamarich	Brendon	USA	92 Woodland Avenue	Saint Louis	MO	63130	Apr 23, 1975
Hamazaki	Yukako	USA	423 Jefferson Avenue	New York	NY	10012	Apr 6, 1976
Kamata	Teresa	USA	330 Rocktown Lambertville Road	Brooklyn	NY	11201	Jan 18, 1980
Karamustafaoglu	Bulent	USA	32 Foxcroft Drive	Rocky Face	GA	30740	May 31, 1981

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12. **Close** the report viewer.

13. Click **Save**.

**EXERCISE** (This exercise is needed for the Prompt section that follows.)

Create a new report with the following columns:

- ID
- Full Name
- Primary University Affiliation Description
- Primary University Affiliation Group Description
- Gender Description
- Save the report as: **Pre Prompt**.

---

## Parameters and Prompts

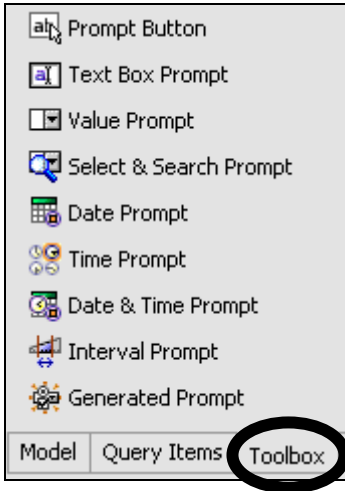
When you create a filter in the filter window, your filter criteria remains static. Prompts allow the user to change their criteria each time they run the report. The filter dynamically changes when the user responds to the prompt.

A **parameter** is a placeholder that requires a value to determine what data in which to report. A **prompt** asks the user to provide the value for the parameter.

There are three ways to prompt a user for report specifications:










1. Create a parameter for an item on the report.
2. Add a prompt page to the report containing one or more prompt items.
3. Add a prompt item to a report.
  - If you create a parameter for an item on the report, when the report is run, the user will be prompted to specify a value. Once a value is entered, the report runs containing the information according to the given value in the prompt.
  - If you add a prompt page to your report, the prompt page appears when you run the report. The prompt page can contain multiple prompts, and the prompts can be for items that are not on the report. The properties of a prompt on a prompt page can be changed to optional.
  - Prompt items can be added directly onto a report page. Drag the prompt object from the toolbox tab onto the report page next to a list, crosstab, or chart. When the report is run, the report appears with a prompt on the page, letting the user narrow the focus after viewing the initial report. (If you add a prompt directly onto a report page, the user will either need to set the prompt to automatically submit the selection, or add a “Finish” prompt button to the report so that the report will regenerate using the new criteria.)

The prompts are located in the Toolbox tab of the Insertable Objects window.



When the user selects items on a report and creates a prompt page, Report Studio will choose an appropriate prompt type. However, if the user adds a prompt item to a report or prompt page, the user can choose any type of prompt available in the Insertable Objects pane according to his needs.

The various prompt types and values are listed below.

	<b>Prompt Button.</b> Adds a button associated to the prompt, such as Next, Back or Finish.
	<b>Text Box Prompt.</b> Prompts based on a value that you type.
	<b>Value Prompt.</b> Prompts based on values you select from a list.
	<b>Select Search Prompt.</b> Prompts based on search criteria that you specify.
	<b>Date Prompt.</b> Prompts based on a date you select.
	<b>Time Prompt.</b> Prompts based on a time you select.
	<b>Date and Time Prompt.</b> Prompts based on a date and time you select.
	<b>Interval Prompt.</b> Prompts based on a time and interval you specify.
	<b>Generated Prompt.</b> Prompts based on the data type of the query item (select a prompt control).

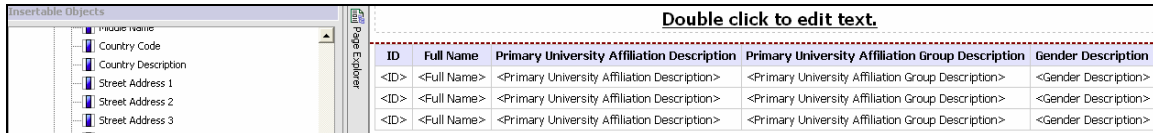
---

## Building a Prompt

GOAL: To build a prompt within the Pre-prompt report.

STEPS:

1. Use the **Pre Prompt** report. Save the report as **Group Prompt**.



Double click to edit text.

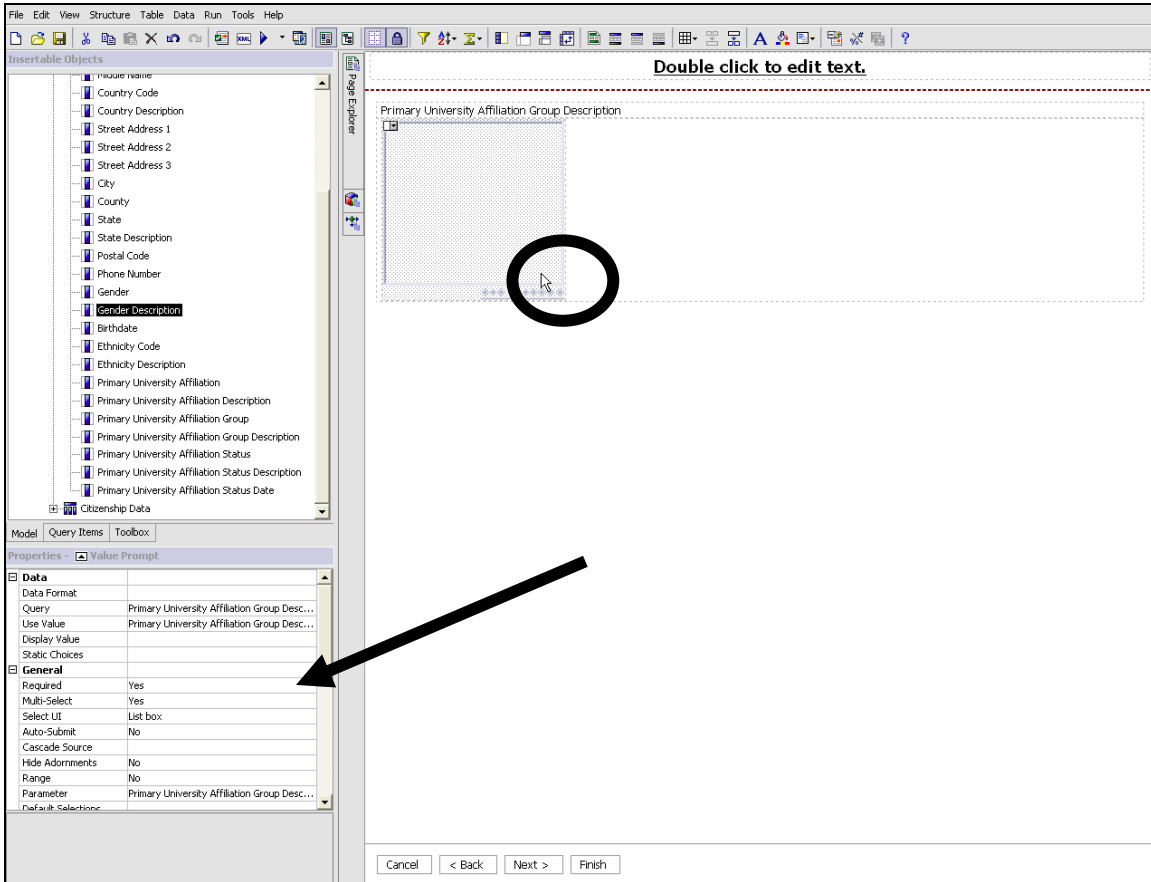
ID	Full Name	Primary University Affiliation Description	Primary University Affiliation Group Description	Gender Description
<ID>	<Full Name>	<Primary University Affiliation Description>	<Primary University Affiliation Group Description>	<Gender Description>
<ID>	<Full Name>	<Primary University Affiliation Description>	<Primary University Affiliation Group Description>	<Gender Description>
<ID>	<Full Name>	<Primary University Affiliation Description>	<Primary University Affiliation Group Description>	<Gender Description>

2. Click once on the column heading of **Primary University Affiliation Group Description**.

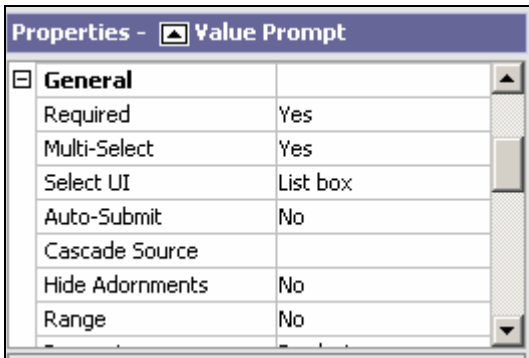
3. Click the **Build Prompt Page** icon .

4. A new page is added with a prompt box labeled 'Primary University Affiliation Group Description'.

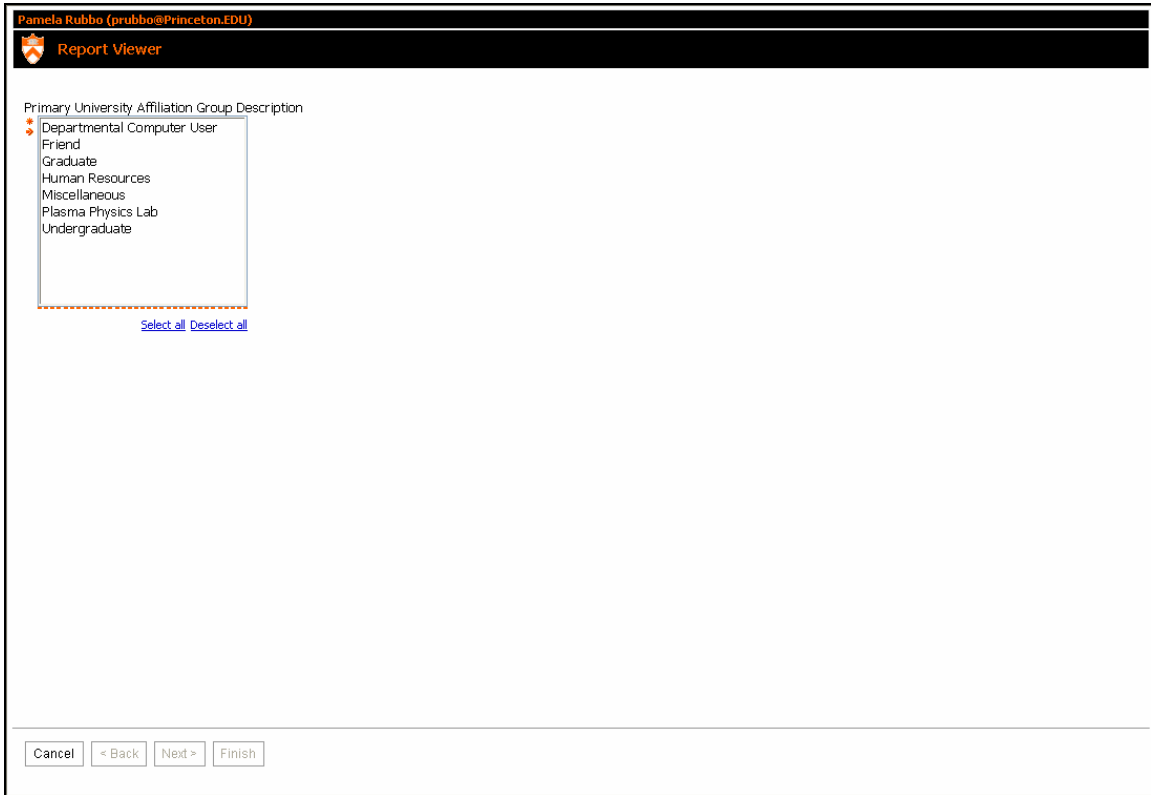
5. Click once in the **Primary University Affiliation Group Description** box to activate the Properties window that is located below the Insertable Objects window.



6. In the Properties window, make sure Required is set to **Yes**.



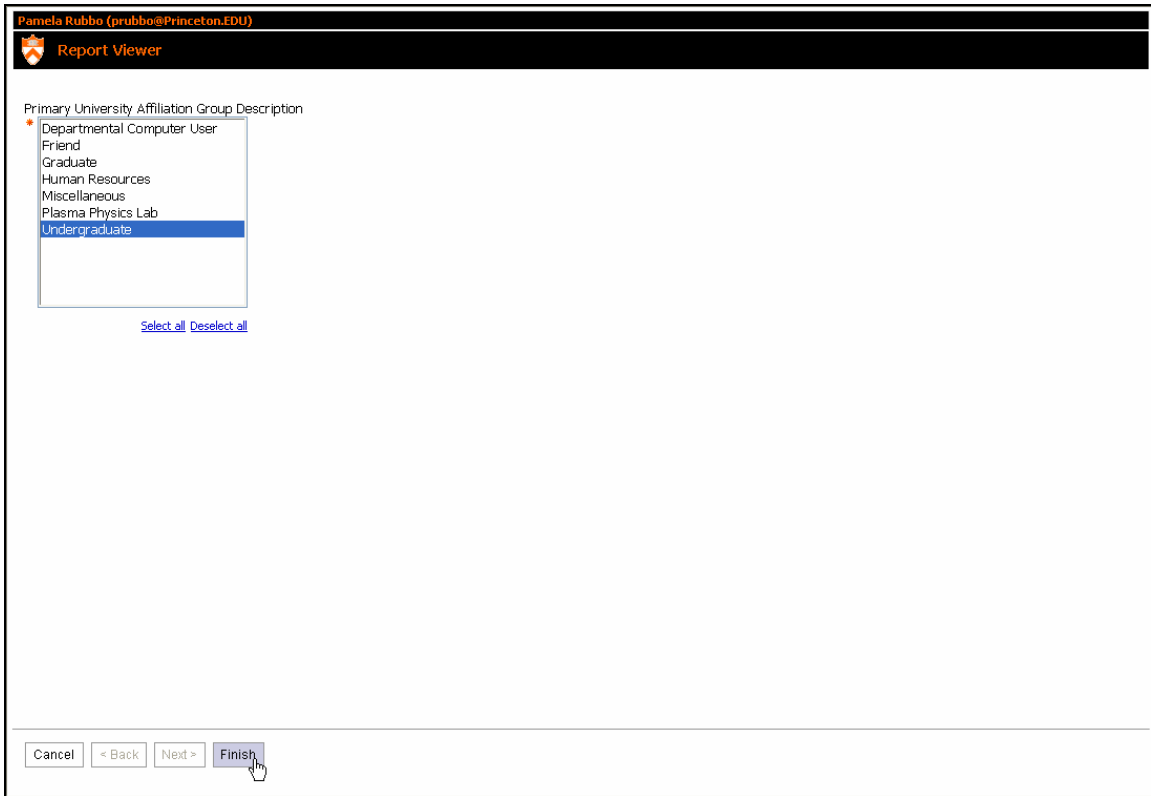
7. **Run** the report. A prompt window for Primary University Affiliation Group will appear.



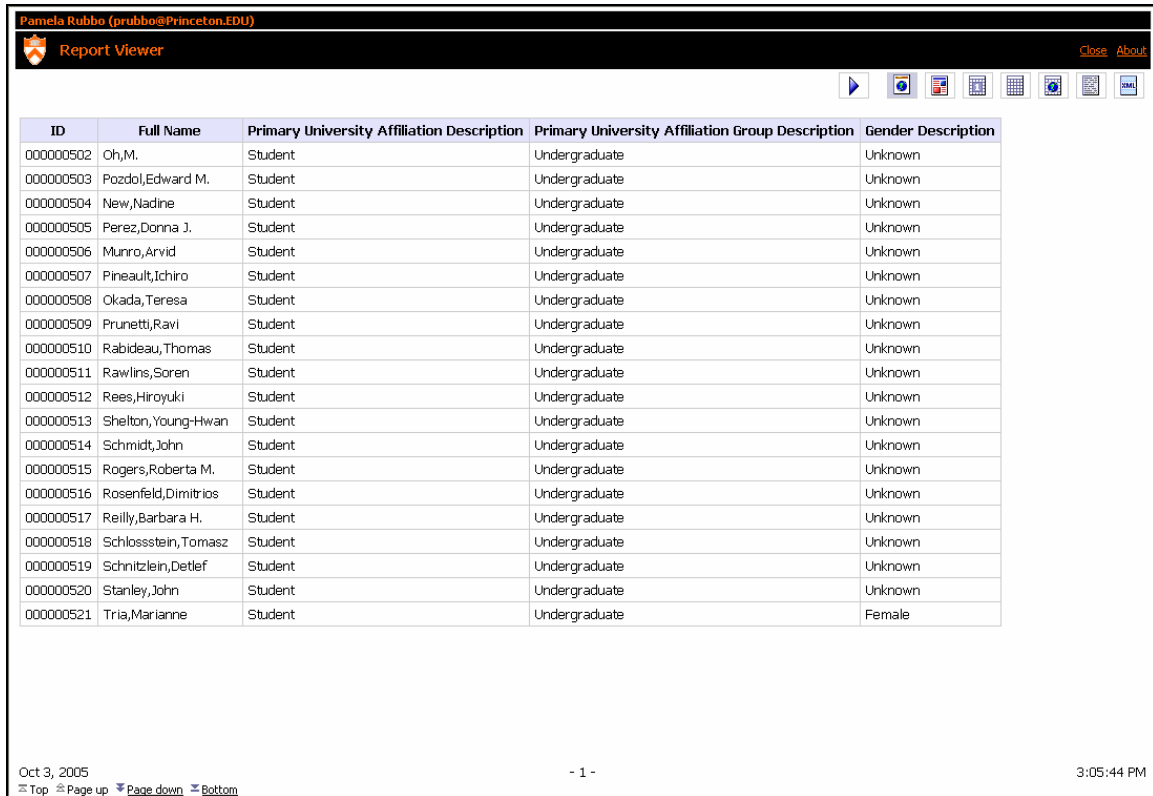
**Note:** The orange star indicates that you have to select at least one item. The orange arrow indicates that nothing is selected yet.



8. Select **Undergraduate** and locate the **Finish** button.



9. Click **Finish**. The report shows only Undergraduates.



The screenshot shows a web application window titled "Report Viewer" for user "Pamela Rubbo (prubbo@Princeton.EDU)". The window contains a table with the following columns: ID, Full Name, Primary University Affiliation Description, Primary University Affiliation Group Description, and Gender Description. The table lists 21 students, all of whom are Undergraduates. The date "Oct 3, 2005" and page navigation controls are visible at the bottom.

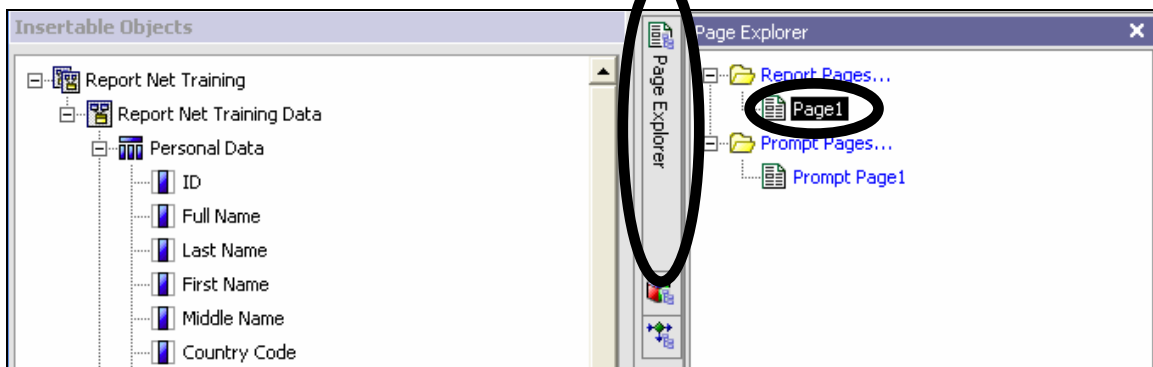
ID	Full Name	Primary University Affiliation Description	Primary University Affiliation Group Description	Gender Description
00000502	Oh, M.	Student	Undergraduate	Unknown
00000503	Pozdol, Edward M.	Student	Undergraduate	Unknown
00000504	New, Nadine	Student	Undergraduate	Unknown
00000505	Perez, Donna J.	Student	Undergraduate	Unknown
00000506	Munro, Arvid	Student	Undergraduate	Unknown
00000507	Pineault, Ichiro	Student	Undergraduate	Unknown
00000508	Okada, Teresa	Student	Undergraduate	Unknown
00000509	Prunetti, Ravi	Student	Undergraduate	Unknown
00000510	Rabideau, Thomas	Student	Undergraduate	Unknown
00000511	Rawlins, Soren	Student	Undergraduate	Unknown
00000512	Rees, Hiroyuki	Student	Undergraduate	Unknown
00000513	Shelton, Young-Hwan	Student	Undergraduate	Unknown
00000514	Schmidt, John	Student	Undergraduate	Unknown
00000515	Rogers, Roberta M.	Student	Undergraduate	Unknown
00000516	Rosenfeld, Dimitrios	Student	Undergraduate	Unknown
00000517	Reilly, Barbara H.	Student	Undergraduate	Unknown
00000518	Schlossstein, Tomasz	Student	Undergraduate	Unknown
00000519	Schnitzlein, Detlef	Student	Undergraduate	Unknown
00000520	Stanley, John	Student	Undergraduate	Unknown
00000521	Tria, Marianne	Student	Undergraduate	Female

10. **Close** the Report Viewer.

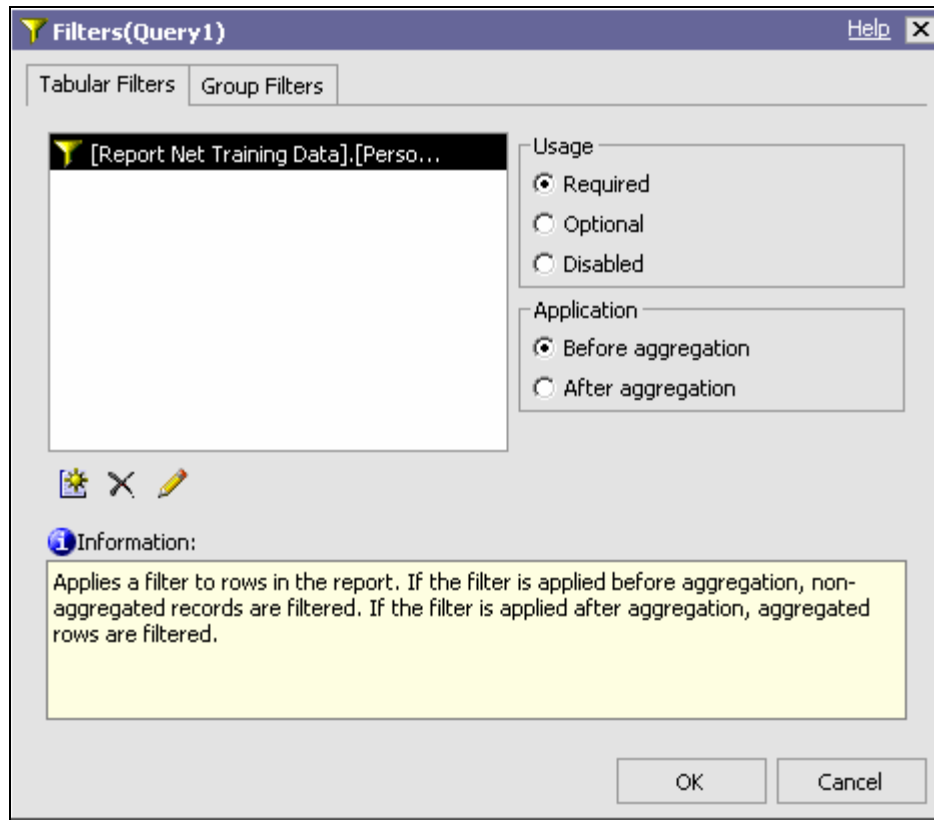
11. Click on the **Page Explorer** bar in the middle of the screen.

*Note: Each time you build a prompt page, a filter is created so that the report data is narrowed down according to the user's prompt response. We will examine that filter now.*

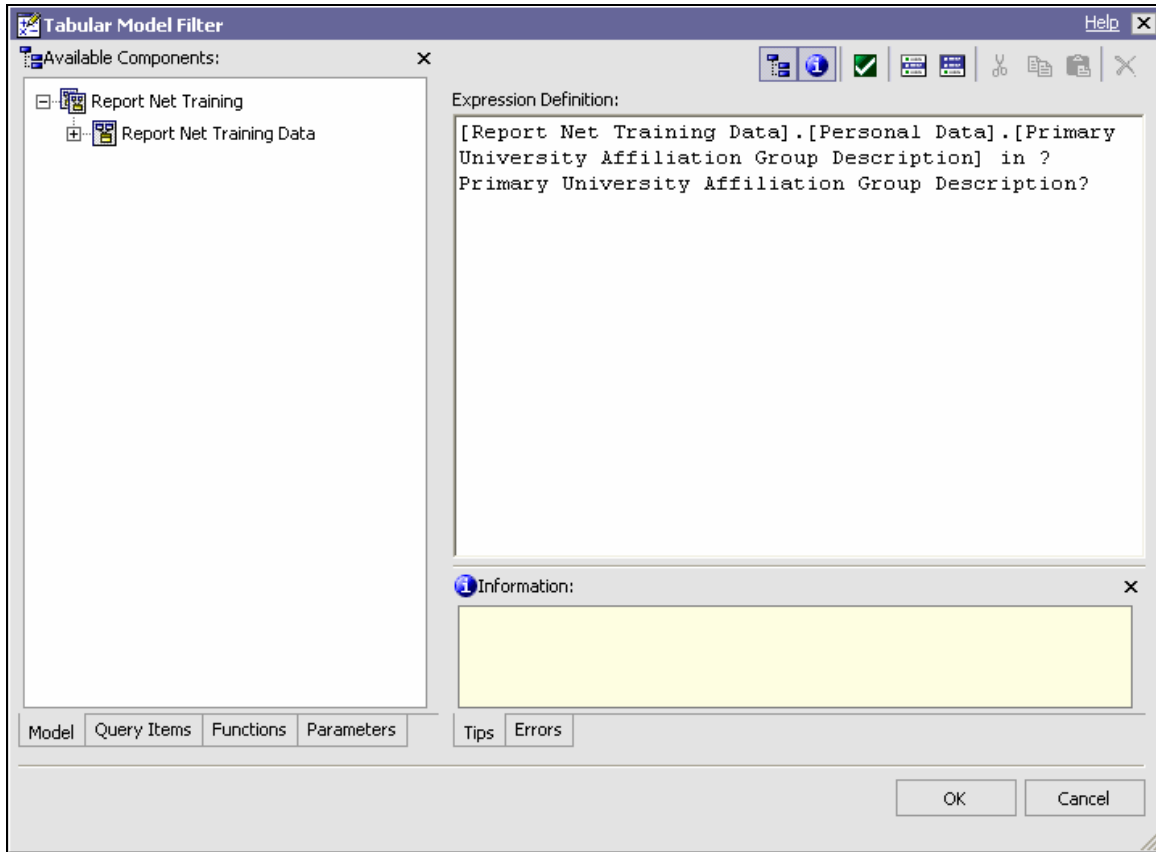
12. Under Report Pages, click on **Page 1** to return to the report.



13. Click on the **Filters** icon to examine the filter.
14. **Double-click** the filter.



15. The question marks around Primary University Affiliation Group Description indicate the prompt.



16. Click **Cancel**

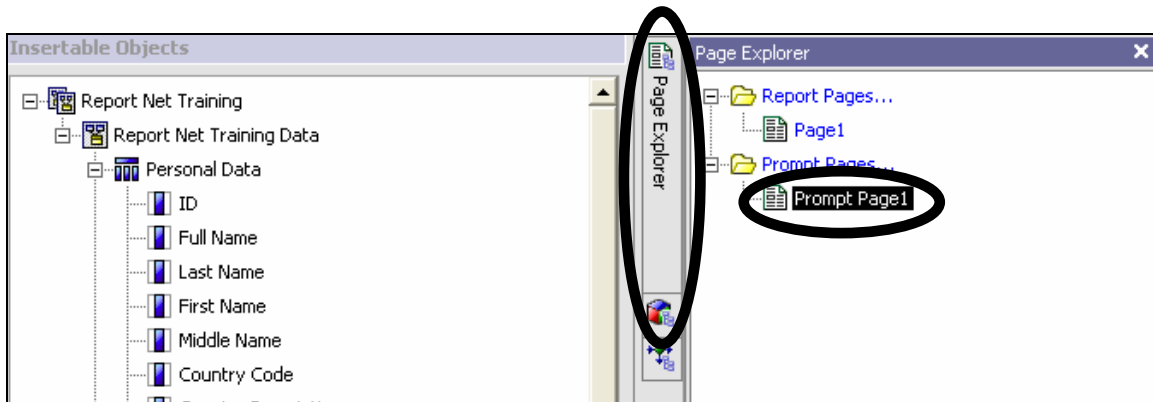
17. Click **Cancel** again and then **Save** the report.

## Prompts – Selecting Multiple Items in the Same Prompt

GOAL: To select multiple items in the same prompt.

STEPS:

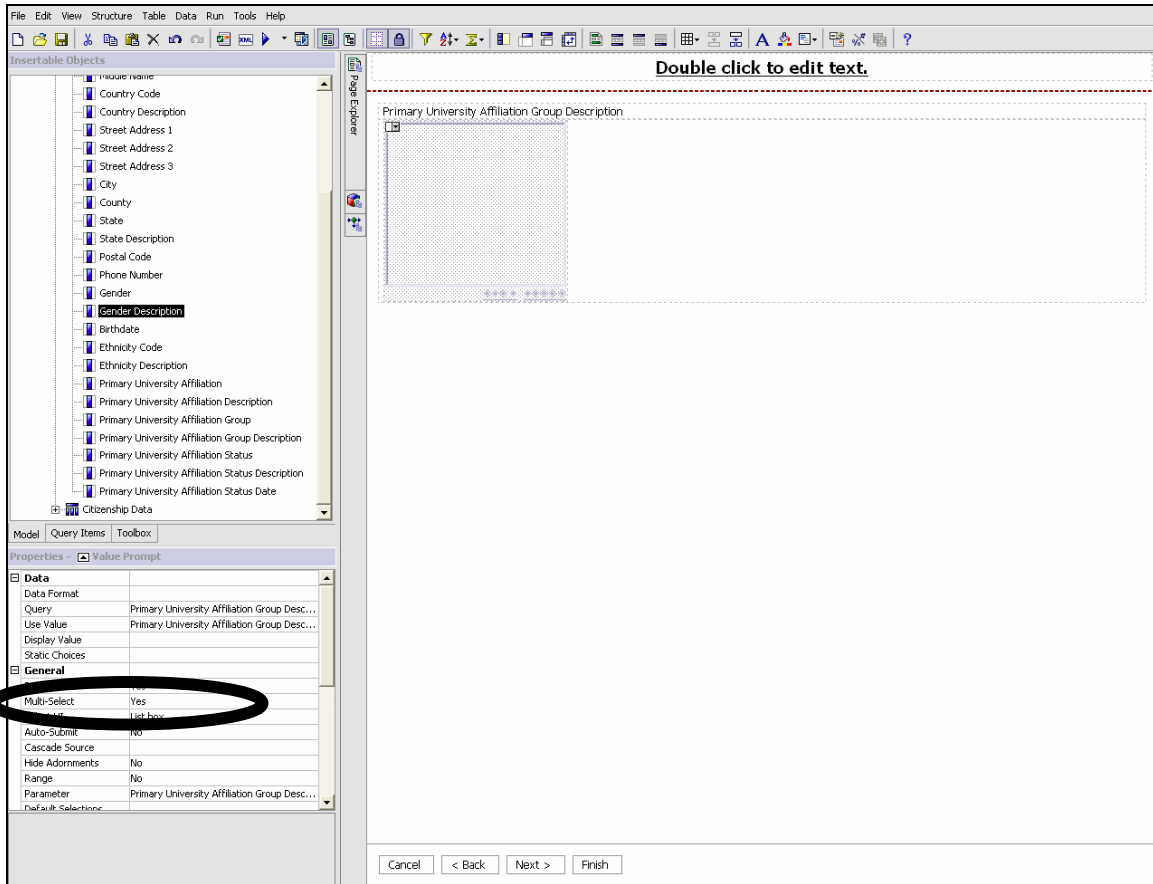
1. Use the current **Group Prompt** report.
2. Return to the prompt page by clicking on the **Page Explorer** bar. Under **Prompt Pages**, click on **Prompt Page 1**.



3. Click in the **Primary University Affiliation Group Description** prompt box.

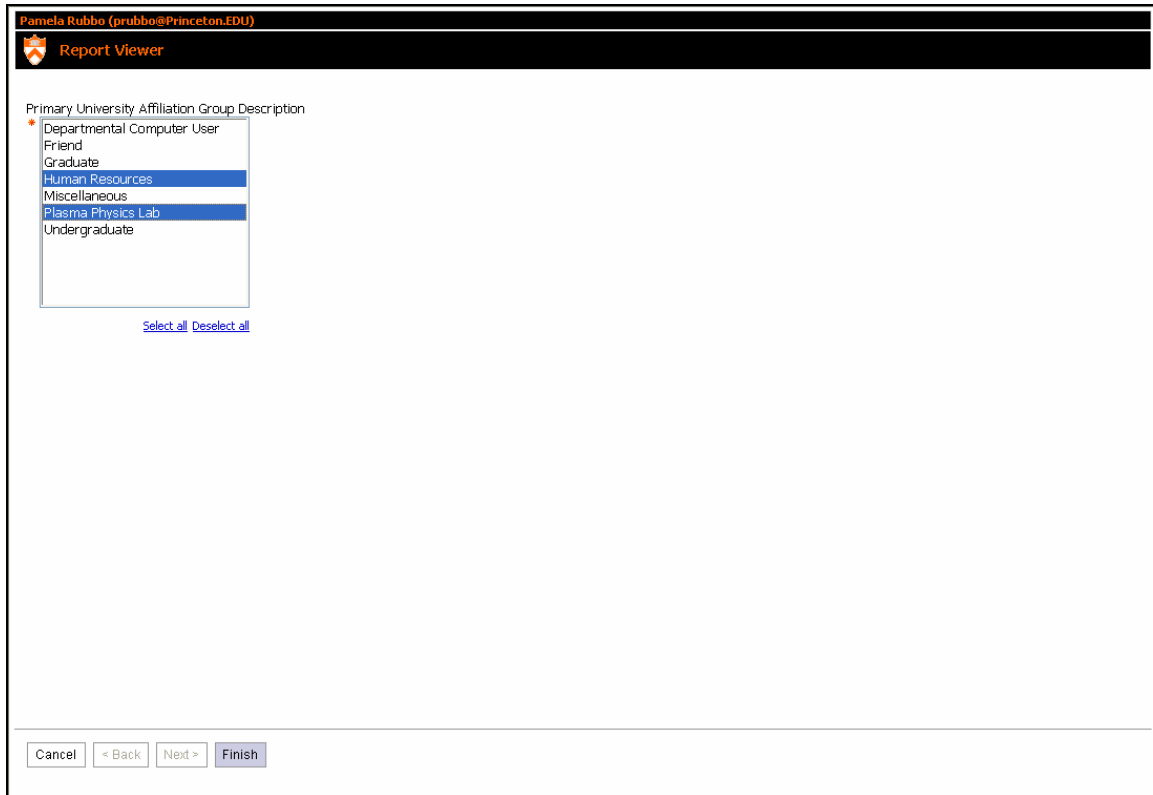
4. Examine the **Properties** window. Notice that **Multi-Select** is set to **Yes**, which will allow the user to select more than one item if desired.

*Note: If Multi-Select was set to No, click once on Multi-Select and using the drop down arrow to the right, select Yes.*



5. **Run** the report.

6. When the prompt window appears, hold down the **Ctrl** key and click on **Human Resources** and **Plasma Physics Lab**.



7. Click **Finish**. To see **Plasma Physics Lab** rows, click the **Bottom** link.

Pamela Rubbo (prubbo@Princeton.EDU)

Report Viewer Close About

ID	Full Name	Primary University Affiliation Description	Primary University Affiliation Group Description	Gender Description
000000001	Fu, Takeshi	Employee	Human Resources	Male
000000002	Winfree, Kaoruko	Employee	Human Resources	Female
000000003	Harmon, Harper	Employee	Human Resources	Male
000000004	Smith, Buddy	Employee	Human Resources	Male
000000005	Petersen, Paul Mills	Employee	Human Resources	Male
000000006	Chang, Brian	Employee	Human Resources	Male
000000007	Zarzewczny, Pamela	Employee	Human Resources	Female
000000008	Michelson, Steven	Employee	Human Resources	Male
000000009	Sherman, Mike	Employee	Human Resources	Male
000000010	Doorish, Juan Navaro	Employee	Human Resources	Male
000000011	Van Hise, Robin	Employee	Human Resources	Female
000000012	Huang, Yat-Tze	Employee	Human Resources	Female
000000013	Bearse, Thomas	Employee	Human Resources	Male
000000014	Witt, Thazhumpal Chacko	Employee	Human Resources	Male
000000015	Wu, Paul SGT	Employee	Human Resources	Unknown
000000016	Graham-Willis, Douglas SSG	Employee	Human Resources	Unknown
000000017	Barnes, Steve SFC	Employee	Human Resources	Unknown
000000018	Ho, Brian	Employee	Human Resources	Unknown
000000019	Kahneman, Dave	Employee	Human Resources	Unknown
000000020	Lowry, Jason	Employee	Human Resources	Unknown

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8. **Close** the Report Viewer.



## Exercise

### Questions:

1. Can you create a filter on something that is not visible in the report? If not, why not? If so, how?
2. If a report has a filter, and you want to run the report and not apply the filter, what do you do? Do you delete the filter or do you skip the filter? What are the steps to your answer?
3. What is the “operator” that you need to use to filter on more than one item in a column? Is there more than one operator you can use?

### Create the following report:

- Create a list report that is sorted by Country Description in ascending order that shows the following information:
  - ID
  - Last name
  - First name
  - Country Description
  - Street Address 1
  - City
  - State
  - Postal Code
  - Phone Number
- Add a prompt to the report that prompts for more than one Last name.

