PeopleSoft Query Training

Overview Guide

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Introduction
All business data is stored in a database in order to be used to manipulate that data, answer questions, perform analysis and solve business problems. However, retrieving particular information from the database can be difficult and time-consuming.

With PeopleSoft Query, you can easily create queries to access data in the PeopleSoft database. The queries can be simple or complex based on your requirement. In addition, they can be one-time or can be used repeatedly.

The following are some examples of how you can use PeopleSoft Queries:

- Preview queries within Query Manager and Query Viewer, displaying the results in a grid for review
- Run queries from Query Manager or Query Viewer as a separate process, and view the results in a separate browser window
- Schedule queries so that they run at predefined times or on recurring schedules
- Download & format query results in Excel
- Or, download results in CSV format and import into Access to create advanced reports

Navigation of Queries
Access to PeopleSoft Financials reporting environment can be achieved by going to the OASIS website and clicking on “PeopleSoft Access”. You may also access it using this URL “http://oasisfsrpt.oasis.lcl”.
User rights and permissions in the reporting environment are the same as the production environment.
**Query Manager**
Query Manager is used to retrieve information from various databases for reporting on any type of business need your department requires.

Query Manager enables you to:
- Create a new query
- View, change or download an existing query
- Search for a query
- Run a query and display results in a new browser window
- Print a query
- Schedule a query

**Query Viewer**
Query Viewer is the primary place to run and view queries. Upon searching for a query, you can choose to run the query immediately and view the results in a new browser window or to schedule it to be run at a later time (or predefined schedule).

Queries Viewer enables you to:
- Search for a query
- Preview a query in the active browser window
- Run a query and display results in a new browser window
- Print a query
- Schedule a query

The only difference between Query Manager and Query Viewer is that in Query Manager you can create a query. We will look at Query Manager in detail later when we create our query.

When you open Query Viewer all available queries are displayed. The following information is displayed for each query:
- Query Name – The database name of the query
- Query Description – The description of the query entered upon creation
- Query Owner:
  - Private – Only the logged on User ID can modify or delete this query
  - Public – Any user can modify this query
- Run to HTML – The query will be executed and the results will display in a new browser window
- Run to Excel – The query will be executed and the results will display in a new Excel Spreadsheet
- Schedule – Schedule the query to run at a later time
- Favorites – Allows you to save a query to the Favorites menu
Query Components

Records Tab
When searching for Records you can perform a Basic Search or an Advanced Search. If you know the name of the record, or even a partial name, enter it in the Search By: field and click Search. You can also leave the field blank and click search. It will display up to 300 records in pages of 20 at a time.

When creating a query, for general information about general ledgers you want a LEDGER record. When the Available Records are displayed, you will get the following information for each Record.

- Recname – This is the database record name – the Record description
- Add Record – Click this hyperlink to select the record for this query
- Show Fields – Click on the icon to display all fields associated with the record. This is to determine if the record is the correct one required for the query.

Advance Search options are available in the Query Search to narrow the search. You can now enter a name and search by Record Name, Description, and Uses Field Name. Two most commonly used Search Types:

- Begins with: The text entered in the “Search For” text box must be the beginning text of the Search In criteria displayed in the search results.
- Contains: The text entered in the “Search For” text box must be in the description of the query to be displayed in the search results.

If you leave the field blank and click search, it will display up to 300 records in pages of 20 at a time.
Query Tab

Once a record has been selected, the Query tab will be the active page listing the fields associated with the selected record. For each Chosen Record you will see:

- Folder Icon: Hide or Unhide the list of fields associated with the selected record. This is useful when you are using more than one record for the query and only need to view the fields associated to one record at a time
- Alias: The database record name – the record description. For example, Department is the Alias for DeptID
- Record: The record name in the database and the description of the record
- Hierarchy Join: This hyperlink allows you to join a child record to its parent
- Minus Button: Used to delete a hierarchy join

Once you unhide the list of fields for each record, you will find the following information:

Expressions Tab

This tab is mostly used in advanced query design. It allows the addition of fields with simple to advanced calculations and logical inspections. Expressions are very useful feature in query design. When used properly, they can reduce additional data manipulations of downloads in other external tools. Advanced functions can be built into an expression will require another document beyond the scope of this document. This tab is discussed further in the advanced query section.
Prompts Tab
Prompts are simply a method that allows specific values to be entered during query run-time. Prompt values can ad-hoc or associated to an existing control table that allows an end user to pick a specific value from a list of values in the table. This tab is discussed further in the advanced query section.

Heading Text - Used for presentation during run time and provides information to the end user. In some cases the default values are not clear and will require query designer to edit this field and make it relevant.

Type – This value defaults to Character but it should be changed if the expected value is not text.

Edit Type – This is an optional setup field. Using the default value will work depending on field data values. Use prompt tables in this field to ensure that users will only enter the correct values.

Fields Tab
The tab shows all output fields that have been selected from the Query tab as well as from the expression tab. It allows users to delete an output field, change field heading, apply an aggregate, or change the translate value.
Criteria Tab
In this tab, we can define our query to retrieve specific records instead of all records in a table or tables. Criteria design is critical to ensure query efficiency and effectiveness. This tab is discussed further in the advanced query section.

Having Tab
This tab is the same as the criteria tab except it is used for fields that have an aggregate attribute. This tab is discussed further in the advanced query section.
View SQL Tab

All design efforts are written and stored in a SQL language format and can be viewed by clicking on the View SQL tab. If you are familiar with the SQL programming language you can confirm your work by going to this tab.
Creating Basic Query Process

The following steps are the basics for creating a simple query. However, it is unlikely that these steps will yield effective results unless the goal is a list of data without any exceptions.

- Select records.
- Add fields to query content.
- View fields selected for output.
- Change the column order for multiple fields.
- Change the sort order for multiple fields.
- Edit field properties.
- View and edit query properties.
- View underlying SQL code.

Running Query

Using Query Viewer, you can run any query that is Public. The following steps, extracted from PeopleSoft PeopleBooks, demonstrate how to accomplish this task.

- Search for a query using the basic or advanced search functions.

Both search types allow you to select the following search by criteria: access group name, description, folder name, owner, query name, type, uses field name, and uses record name. The basic search enables you to search using only the “begins with” condition. The advanced search enables you to perform a progressively narrower search by using one or more search by criteria and selecting from a choice of conditions for each search by criterion.

- Run a query (which displays results in a new browser window).

To run a query, click the HTML or Excel button to the right of the query on the Search Results page.

- Download the results to a Microsoft Excel spreadsheet or a CSV Text file.

To download the results, first click the HTML link associated with the query on the Search Results page. Then, to download the results to a CSV text file, click the CSV Text File link on the HTML results of the query. To download the results to a Microsoft Excel file, click the Excel Spreadsheet link on the HTML results page.
Advance Query Building Components

By now, you have learned the basics about query navigation, creation, and execution. So let us dive into advanced queries and learn how we can build a query that provide us with answers to questions we may have, provide a solution to a problem, or just simply let us know how we are doing in a specific area.

Writing a query is born out of the need to answer a business question quickly and accurately. These business questions can be simple to complex in nature. Basic queries usually provide extensive results that will require additional analysis using a spreadsheet tool such as Excel. However, in PeopleSoft Query Manager, users can increase the efficiency and effectiveness of their query by using additional components that will limit query results to only relevant data.

Remember, the goal in query design is to answer a business question or solve a business problem. In many cases, writing a query that answers a business question without the need of additional tools is best approach. However, this is not always the case, and a query designer should always concentrate on retrieving the relevant data during run time that helps reduce analysis time when using other external tools.

The following are advanced query components that if used properly, will provide query users best results.

- Criteria
- Table (Records) Joins
- Aggregate Function
- Run Time Prompts
- Expressions
- Multiple Table Joins
- Having Criteria
- Group Criteria

Walkthrough Scenarios

Each walkthrough will have a scenario that will aid readers in the understanding of each required component to demonstrate advanced query design.
Criteria
How does criteria aid in the design of a query? View criteria as a filter that can be integrated in a query design to discard the data you do not need or to only retrieve the data you are seeking. Let us take a look at how we can add criteria, the criteria screen, and criteria parts.

Criteria Screen
The criteria screen is divided into three main parts. These parts are Expression 1, Condition Type, and Expression 2. This screen simply allows us to write the following statement as one complete criterion:

\[
\langle (Expression 1) \mid (Condition Type) \mid (Expression 2) \rangle
\]

<table>
<thead>
<tr>
<th>Expression 1</th>
<th>Condition Type (Operator)</th>
<th>Expression 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field</td>
<td>Between</td>
<td>Not Between</td>
</tr>
<tr>
<td>Expression</td>
<td>Equal To</td>
<td>Not Equal To</td>
</tr>
<tr>
<td></td>
<td>Exists</td>
<td>Does Not Exists</td>
</tr>
<tr>
<td></td>
<td>Greater Than</td>
<td>Not greater Than</td>
</tr>
<tr>
<td></td>
<td>In List</td>
<td>Not In List</td>
</tr>
<tr>
<td></td>
<td>In Tree</td>
<td>Not In Tree</td>
</tr>
<tr>
<td></td>
<td>Is Null</td>
<td>Is Not Null</td>
</tr>
<tr>
<td></td>
<td>Less Than</td>
<td>Not Less Than</td>
</tr>
<tr>
<td></td>
<td>Like</td>
<td>Not Like</td>
</tr>
</tbody>
</table>

Each part must have an option selected. In the first expression “Expression 1” a table field can be selected with any condition type to compare it with “Expression 2”. Condition types are divided into two main columns, include and exclude. The first column is used to include values, and the second column is used to exclude values from the defined expressions.

Expression 1 Items:
- Field – any table field can be selected from the selected tables within a query
- Expression – functions that can be written in the expression screen to formulate values based on calculations or data manipulations.

Condition Types (Operators):
For detailed explanation on each condition type please refer to the “Criteria Condition Types” table in appendices.

Expression 2 Items:
- Field – any table field can be selected from the selected tables within a query
- Expression – functions that can be written in the expression screen to formulate values based on calculations or data manipulations.
- Constant – a value that is entered directly in space provided
- Prompt – allows an interactive query where end users can enter values based on their needs
- Subquery – allows the filtering of a queried records from a nested statement
Walkthrough 1 – Criteria
In this scenario, we want to find purchase orders that were created December 2010 for a department and include these fields in the results, Business Unit, Purchase Order Number, PO Date, PO Status, and Vendor ID.

Walkthrough 1 – Step-by-Step Instructions
1. Sign-In to the PeopleSoft Reporting Environment
2. Click on Reporting Tools, Query, and Query Manager
3. Click on “Create New Query”
4. Type in the record name field “PO_HDR”
5. Click “Search” or press “Enter”
6. From the list of results, click on the corresponding “Add Record” for “Purchase Order Header”
7. The previous action will take you to the “Query” tab.
8. Select BUSINESS_UNIT, PO_ID, PO_DT, PO_STATUS, and VENDOR_ID.
9. Click on the button
10. Name the query “PS_QUERY_TRAINING_W1S1”
11. Click on the “Fields” tab
12. For each field, click on the corresponding button and change “Heading” to “RFT Long”. For the status field, change the “Translate Value” to “Short” as well.
13. Add criteria for “Business Unit” by clicking on the corresponding icon.
14. In the “Edit Criteria Properties” screen, select “Equal To” for condition type and enter your business unit acronym.
15. Add criteria for “PO Date”
17. In “Expression 2” section, enter or select from the calendar 12/01/2010 for “Date” and 12/31/2010 for “Date2”.
18. Save your query.
19. Run your query by opening a new window, type the name of the query in the search field and click on search. Click on “HTML” which will run the query in the browser. Note the number of records generated. Close the results screen.
20. In the query manager, in the “Fields” tab of your query, add criteria for “PO Status”. In the “Edit Criteria Properties” screen, select “Equal To” for condition type. In “Expression 2” section, click the icon. From the list of constants, select “Dispatched”.
21. Repeat steps 18 through 19.
22. In the query manager, click on the “Criteria” tab.
23. Click on the corresponding button for PO Status.
24. Change the condition type to “In List”.
25. In “Expression 2” section, click the icon. Add “Dispatched” and “Complete” values by clicking on the button.
26. Click “OK” twice.
27. Repeat steps 18 through 19.
28. By comparing all three results, you will notice how much criteria can control the outcome of your query. It is critical that you plan query criteria ahead to ensure the results that best answers an inquiry.

29. In the query manager, click on the “Criteria” tab.

30. Click on the corresponding button for PO Date.

31. Change the condition type to “Greater Than”.

32. In “Expression 2” section, select a date that will yield purchase orders dated as of 12/1/2010. This date would be 11/30/2010.

33. If we leave this criteria as is, we will get all purchase orders dated 12/01/2010 to the present that meet all other set criteria in this query. To correct this, we will add another criterion to the “PO Date”.

34. In the “Criteria” tab, click on the button.

35. In the “Edit Criteria Properties” screen, “Expression 1”, click the icon.

36. In the “Select a field” screen, find and click on the PO_DT.

37. Change the condition type to “Less Than”.

38. In “Expression 2” section, select a date that will yield purchase orders dated no later than 12/31/2010. This date would be 01/01/2011.

39. Click “OK”

40. Repeat steps 18 through 19.

41. The last results of your query should equal the previous query run results.

Table (Records) Joins
Queries results may contain information that has been retrieved from one or more tables. Adding tables in a query will require that tables be joined using one or more key fields. There are two types of table joins that can be applied, a “Standard Join” and a “Left Outer Join”.

Adding Table Join
There are two methods to add a table joins. The quickest method is to use the “Hierarchy Join”. The other method is to use the Records tab and search for the tables you need.

Hierarchy Join
This method allows table join based on functional workflow. When a hierarch join is selected, tables that contain child records and tables that contain records of the next step in the workflow. Related tables that can be joined to the existing table are displayed for selection. Joins using hierarchy, will not create
join entries in the criteria tab. Instead, the relationship is inserted directly in the SQL and can be viewed in the “View SQL” tab.

*Note: You will need to be very familiar with your business function and know what tables are related. Not all tables are connected and appear in the Hierarchy Join.*

**Select join type and then record to join with PO_LINE_DISTRIBUT - PO Line Accounting Entries.**

<table>
<thead>
<tr>
<th>Join Type</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Join to filter and get additional fields (Standard Join)</td>
<td></td>
</tr>
<tr>
<td>Join to get additional fields only (Left outer join)</td>
<td></td>
</tr>
</tbody>
</table>

**Auto Join Criteria**

Query has detected the join conditions shown below. Use the checkboxes to unselect the criteria that you do not want to add to the query and click add criteria when done. The criteria added can always be modified later using the criteria tab.

- A BUSINESS_UNIT - Business Unit = B BUSINESS_UNIT - Business Unit
- A PO_ID - PO Number = B PO_ID - PO Number

**Standard Join**

When this option is selected, query results will display records that are matched in joined tables. If a record in the primary table, left, exist but does not exist on the secondary table, right, it will not be displayed in the results.

**Left Outer Join**

When this option is selected, query results will display all records that are on the primary table, left, and whatever is matched on the secondary table, right.

Example - if every employee has a profile in the system stored in the employee table it does not mean every employee has an entry in the Obtained Certificate table. An entry will exist in the obtained certificate table for those employees who have earned a certificate. If we want to find out if anyone has a certificate, then we would use a standard join.

However, if we want a list of all employees with information about certificates, then we need to use a “Left Outer Join”. To filter out who has or who does not have a certificate, then we add an optional criteria. Without additional criteria, your results will display all employees. To display employee records that do have a certificate, you will apply a “Not is Null” condition to the employee ID in the secondary
To display employee records that do not have a certificate, you will apply “Is Null” condition criteria to it instead.

Another example and related to “Walkthrough 1 – Scenario 1” can be applied to procurement workflow. If a PO is dispatched and used, the next step in the workflow is to apply the PO Number when paying an invoice and processing a voucher. However, given the fact that a voucher can be processed without a PO, a PO may or may not be linked to a voucher, but also an invoice may not have been submitted for payment yet.

In each scenario, depending on the information you are seeking, selecting the right join type can make a big difference and greatly impact your query results. To understand the difference use Walkthrough 2 to practice.

**Walkthrough 2 – Criteria and Table Joins**

In this scenario, we want to find the cost for each PO line of goods or services. Using the previous query “PS_QUERY_TRAINING_W1S1”, add purchase order lines by joining table “PO_LINE_DISTRIBUT”, and include the following fields from the new table, Merchandise Amount, Sales Tax Amount, Use Tax Amount, Freight Amount, and Miscellaneous Amount. Rename the query “PS_QUERY_TRAINING_W2S1”.

**Walkthrough 2 – Step-by-Step Instructions**

1. Sign-In to the PeopleSoft Reporting Environment
2. Click on Reporting Tools, Query, and Query Manager
3. Find and open query “PS_QUERY_TRAINING_W1S1”
4. Click on “Save As” link on the bottom
5. Change query name to “PS_QUERY_TRAINING_W2S1”
6. Click on the Records tab
7. Search for Record Name (Table) “PO_LINE_DISTRIBUT”
8. Click on the adjacent “Join record” link
9. On the next screen you are presented with table join options. For this scenario it will not matter which one. The table we are joining belongs to the existing parent table in our query. Purchase order records created in the parent table must have at least one record in the child table that we are joining. The records in the child table are the details for a parent record, in this case, a purchase order.
10. Leave table join settings as is and click on the other available option the “PO_HDR” table.
11. On the following screen is the field options to use for joining the two tables and the system preselect the appropriate fields for you. “Business Unit” and “PO Number” are critical to make sure we align records correctly from both tables.
12. Click on “Add Criteria” button
13. Now scroll through the second table and add Merchandise Amount, Sales Tax Amount, Use Tax Amount, Freight Amount, and Miscellaneous Amount.
14. Save your query.
15. Run your query by opening a new window, type the name of the query in the search field and click on search. Click on “HTML” which will run the query in the browser. Note the number of records generated. Close the results screen.

16. Click on the “Query” tab

17. Click on the button for the newly joined table to delete it

18. Click on the “Records” tab

19. Click on the adjacent “Join record” link

20. Change the join type to “Left Outer Join” and click on the “PO_HDR” table

21. Repeat steps 13 through 15.

22. Query results should not have changed.

23. Click on “Save As” link on the bottom

24. Change query name to “PS_QUERY_TRAINING_W2S1B”

25. Repeat steps 16 through 18.

26. Search for Record Name (Table) “VOUCHER”

27. Click on the adjacent “Join Record” link

28. Keep “Standard Join” with “Business Unit” and “PO Number”

29. Select “Voucher ID” and “Invoice Number”

30. Repeat steps 14 through 20.

31. Repeat steps 14 through 15.

32. You will notice a difference in your results when you join the voucher table using a standard join versus a left outer join. A purchase order can exist without a voucher table, and a voucher can exist without a purchase order. However, when we link the PO tables with the Voucher tables together, we can retrieve which purchase orders are linked and which are not. In other words, which purchase orders have been consumed by a voucher and which are still outstanding.

33. End of Walkthrough
Aggregate Function

Aggregate function applies a calculation within a field over one or more records in a query. Aggregate functions such as Sum, Count, Min, Max, and Average can be applied by simply selecting the desired aggregate in a field edit screen.

Refer to the next example, we have a parent record that has five child records, we can add one field from the child table to the query that has a value that can be added. An aggregate can applied to this field such as Sum and the parent record will present its information plus a total for field we added.

<table>
<thead>
<tr>
<th>Table 1: Without Aggregate</th>
<th>Parent record ID</th>
<th>Child Record Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRID10001</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>PRID10001</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>PRID10001</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>PRID10001</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>PRID10001</td>
<td>25</td>
<td></td>
</tr>
</tbody>
</table>

Table 2: With Aggregate

<table>
<thead>
<tr>
<th>Parent record ID</th>
<th>Sum(Child Record Amount)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRID10001</td>
<td>355</td>
</tr>
</tbody>
</table>

Walkthrough 3 – Criteria, Table Joins, and Aggregate Function

Using query “PS_QUERY_TRAINING_W2S1”, we will consolidate lines using the aggregate function. The goal is to sum line amounts and count lines for each PO. Rename the query “PS_QUERY_TRAINING_W3S1”.

Walkthrough 3 – Step-by-Step Instructions

1. Sign-In to the PeopleSoft Reporting Environment
2. Click on Reporting Tools, Query, and Query Manager
3. Find and open query “PS_QUERY_TRAINING_W2S1”
4. Click on “Save As” link on the bottom
5. Change query name to “PS_QUERY_TRAINING_W3S1”
6. Click on the “Fields” tab
7. Edit each of these fields to apply an aggregate Sum, Merchandise Amount, Sales Tax Amount, Use Tax Amount, Freight Amount, and Miscellaneous Amount.
8. Save your query.
9. Run your query by opening a new window, type the name of the query in the search field and click on search. Click on “HTML” which will run the query in the browser. Note the number of records generated.
10. Query results have been reduced to equal the same results as “PS_QUERY_TRAINING_W1S1” query. Child records have been grouped and presented as total in each selected field.
11. Edit the aggregated columns heading to more appropriate text by click on each column’s “Edit” button. Change each as follows, “Merchandise”, “SalesTax”, “UseTax”, “Freight”, “Miscellaneous”, or any other heading.
12. Save your query.
13. End of Walkthrough
Run-Time Prompts
Prompts in a query provide an interactive way of controlling the results. Not every query will require a prompt. You should use prompts when you know that end users will be looking at different data based on their needs. End users may want information pertaining to their department, group, a range of numbers, or a range of dates.

Prompts are part of the criteria section. A prompt is usually found in Expression 2 of the criteria section. Most of condition types can be used with a prompt.

Walkthrough 4 - Criteria, Table Joins, Aggregate Function, and Prompts
Using query “PS_QUERY_TRAINING_W3S1”, we will add prompts to two fields to control query results. Rename the query “PS_QUERY_TRAINING_W4S1”.

Walkthrough 4 - Step-by-Step Instructions
1. Sign-In to the PeopleSoft Reporting Environment
2. Click on Reporting Tools, Query, and Query Manager
3. Find and open query “PS_QUERY_TRAINING_W3S1”
4. Click on “Save As” link on the bottom
5. Change query name to “PS_QUERY_TRAINING_W4S1”
6. Click on the “Prompts” tab
7. Click on the Add Prompt button
8. Click on the icon below "Field Name"
9. In the next screen, type “PO_DT” and click search
10. From the list, select “PO_DT_FROM”
11. Change Heading Text to “From PO Date” and Click OK
12. Click on the Add Prompt button
13. The previous list still present, select the “PO_DT_TO”.

Riverside County Auditor-Controller's Office
14. Change Heading Text to “To PO Date” and Click OK
15. Save your query
16. Click on the “Criteria” tab
17. Click on the corresponding 
18. Change the “Expression 2” type to “Expr - Expr”
19. In “Expression 2” section, under “Define Expression”, click the “Add Prompt” link
20. Select Prompt 1
21. In “Expression 2” section, under “Define Expression 2”, click the “Add Prompt” link
22. Select Prompt 2
23. Click OK and save your query
24. Run your query by opening a new window, type the name of the query in the search field and click on search. Click on “HTML” which will run the query in the browser. Enter the required data and click on . Close the results screen.
25. We are going to add another prompt
26. Click on the “Criteria” tab
27. Click on the corresponding 
28. Change the “Expression 2” type to “Prompt”
29. In “Expression 2” section, under “Define Prompt”, click the “New Prompt” link
30. Change Heading Text to “Business Unit” and Click OK twice.
31. Save your query
32. Run your query by opening a new window, type the name of the query in the search field and click on search. Click on “HTML” which will run the query in the browser. Enter the required data and click on . Close the results screen.
33. Click on the “Criteria” tab
34. Click on the corresponding 
35. Click on the “Edit Prompt” link
36. From the drop-down of “*Edit Type” select Prompt Table
37. Click on the 
38. In the next screen, search for “BUS_UNIT_TBL”
39. There are one or more options for this field.
40. Select one of these tables “BUS_UNIT_TBL_FS” or “BUS_UNIT_TBL_AP”
41. Save your query
42. Run your query by opening a new window, type the name of the query in the search field and click on search. Click on “HTML” which will run the query in the browser.
43. Enter the required dates, for the Business Unit, click the 
44. Click on .
45. Close the results screen.
46. End of Walkthrough
Expressions

One of the great things about building results oriented queries that reduce the need for additional analysis of the results with an external tool is the ability to add expressions. Expressions are a way of inserting a calculation, add a logical inspection, and add a specific data and more. The expression part is vast to cover in this guide. However, we will cover few expressions that readers of this guide might use.

Expression content can be in the form of a field value, system value, a calculation of one or more fields and a variable. The following are simple expressions that you might use in a query and added as a field:

- “TableA.Field1 + TableA.Field2”, this will sum the value of two numeric fields.
- “%CURRENTDATEOUT”, this will insert the current date on each record.

Walkthrough 5 – Criteria, Table Joins, Aggregate Function, Prompts, and Expressions

Using query “PS_QUERY_TRAINING_W4S1”, we will add two simple expressions to the design. Rename the query “PS_QUERY_TRAINING_W5S1”.

Walkthrough 5 – Step-by-Step Instructions

1. Sign-In to the PeopleSoft Reporting Environment
2. Click on Reporting Tools, Query, and Query Manager
3. Find and open query “PS_QUERY_TRAINING_W4S1”
4. Click on “Save As” link on the bottom
5. Change query name to “PS_QUERY_TRAINING_W5S1”
6. Click on the “Expressions” tab
7. Click the “Add Expression” button
8. Change expression type to “Number”, length to “28”, decimals to “3”
9. Click on “Add Field”
10. Two record tables are displayed.
11. Click on “Show Fields” button for the table B
12. Click on “B.MERCHANDISE_AMT - Merchandise Amt”
13. The field is added to the expression.
14. Type a plus sign “+” after the field. No Spaces!
16. Click OK and save the query
17. Click on “Use as Field” to add the expression to query output
18. Once expression is added, click on the adjacent “Edit” button.
19. Change expression heading to “POTotal”.
20. Click OK and save the query
21. Click on the “Expressions” tab
22. Click the “Add Expression” button
23. Change expression type to “Date”
24. Type in the expression text “%CURRENTDATEOUT”
25. Click OK and save the query
26. Click on “Use as Field” to add the expression to query output

27. Once expression is added, click on the adjacent “Edit” button.
28. Change expression heading to “QueryDate”.

29. Click OK and save the query
30. Run your query by opening a new window, type the name of the query in the search field and click on search. Click on “HTML” which will run the query in the browser.
31. Enter the required dates, for the Business Unit, click the icon and select a business unit.
32. Click on the “View Results” button.
33. End of Walkthrough
Multiple Table Joins
PeopleSoft query design environment allows adding multiple tables to be joined up to a maximum of six tables in one level. Joining additional tables allows the inclusion for significant data or the exclusion of certain records. However, query designer must take caution when joining tables. It is best to plan table join order, because Left Outer Join is only possible to the last table. If a required table join has to be Left Outer Join type, it must be joined to the last table in the query. Therefore careful planning is advised. Joining tables can be very tricky, as it may exclude many records or add many more that are not relevant or duplicates.

Walkthrough 6 – Multiple Table Joins
Using query “PS_QUERY_TRAINING_W5S1”, we will add two more tables to the design. The vendor table and the business unit Table we will join to the existing design and add the business unit name and the vendor name. Rename the query “PS_QUERY_TRAINING_W6S1”.

Walkthrough 6 – Step-by-Step Instructions
1. Sign-In to the PeopleSoft Reporting Environment
2. Click on Reporting Tools, Query, and Query Manager
3. Find and open query “PS_QUERY_TRAINING_W5S1”
4. Click on “Save As” link on the bottom
5. Change query name to “PS_QUERY_TRAINING_W6S1”
6. Click on the Records tab
7. Search for Record Name (Table) “BUS_UNIT_TBL_FS”
8. Click on the adjacent “Join record” link
9. On the next screen you are presented with table join options. The Business Unit exists in both tables. However, for a good design approach, join the new table to the PO_HDR table. Since the PO_HDR is not the last table in the design so we will need to use “Standard Join”. Although, in this case either join type will work and yield the same results. This is because every business unit must have a record in the “BUS_UNIT_TBL_FS” table.
10. Leave table join settings as is and click on the “PO_HDR” table.
11. On the following screen are the field options to use for joining the two tables and the system preselect one field for you, “BUSINESS_UNIT”. Keep the field checked and click on “Add Criteria” button.
12. Under the Query tab, select “DESCR – Description” field to add it to the query Output.
13. Click on the “Fields” tab
14. Click on “Edit” button for the new field.
15. Select “Text” and change the heading text to something like “BUName”.
16. Click on “Reorder/Sort” button.
17. On the left column of the last field, enter number “2” and click OK.
18. The business unit name will be outputted as the second column.
19. Save the query and examine the results.
20. Back to design, click on the “Records” tab.
21. In the search field type vendor and click search.
22. Click “Join Record” for the “VENDOR - Vendor Header Table”.
23. On the next screen, click on the “PO_HDR” table to join it.
24. Leave the Auto Join Criteria as is and click on Add Criteria button.
25. Select Name1 from the vendor table
26. Click on the Fields tab
27. Edit the “NAME1” field and change its heading text to something like “VendorName”.
28. Select Text option under Heading.
29. Click OK and Save your query
30. Criteria Tuning: Business unit in vendor table is not used and the join criteria will produce no records if it is left as is. However, we can fix this issue by joining the right fields.

31. Click on Criteria tab
32. Click on Edit for vendor table business unit criteria.
33. Under Expression 1, click the magnifier.
34. From the list of fields on table A, select “VENDOR_SETID” by clicking on it.
35. Under Expression 2, click the magnifier.
36. Click the Show Fields button for Vendor table.
37. Select “SETID” field from the list.
38. Click OK and save your query
39. Note: You may want to resort your fields to output vendor name next to vendor ID.
40. Run your query and examine the results.
41. End of Walkthrough
**Having Criteria**

This feature applies filtering to an aggregate field. For example, if we have a field that counts child records, then we can only apply a having criteria to it. We can use the having criteria to limit or exclude parent records from appearing in the query results. For instance, if we only want parent records that do have two or more child records, then we can apply a filter in the having criteria to accomplish this goal.

**Walkthrough 7 - Having Criteria**

Using query “PS_QUERY_TRAINING_W6S1”, we will filter our results to only produce purchase orders with total values greater than $1,000. Rename the query “PS_QUERY_TRAINING_W7S1”.

**Walkthrough 7 - Step-by-Step Instructions**

1. Sign-In to the PeopleSoft Reporting Environment
2. Click on Reporting Tools, Query, and Query Manager
3. Find and open query “PS_QUERY_TRAINING_W6S1”
4. Click on “Save As” link on the bottom
5. Change query name to “PS_QUERY_TRAINING_W7S1”
6. Click on the Fields tab
7. Using the POTotal expression field, click on the Add Criteria symbol. The system will automatically generate a having criteria to be completed.
8. Select “greater than” from the condition type.
9. Under Expression 2, enter “1000”.
10. Click OK and Save your query
11. Click on the Having tab
12. There is only one new entry as expected.
13. Run your query and examine the results. Notice the “POTotal” column contains only amounts greater than $1,000.
14. End of Walkthrough
Group Criteria

There will be times where we need records that contain different and similar values. For example, if we want all values in Field-1 with all containing values in Field-2 and some values in Field-1 with certain values in Field-2, and all other criteria is the same, then we will need to apply Group Criteria. Like all parts of building a query, applying group criteria incorrectly will result in bad data.

Walkthrough 8 – Grouping Criteria

Using query “PS_QUERY_TRAINING_W7S1”, we will filter our results to produce purchase orders with line total greater than $500 and line total greater than $100 for only one account. Rename the query “PS_QUERY_TRAINING_W8S1”.

Walkthrough 8 – Step-by-Step Instructions

1. Sign-In to the PeopleSoft Reporting Environment
2. Click on Reporting Tools, Query, and Query Manager
3. Find and open query “PS_QUERY_TRAINING_W7S1”
4. Click on “Save As” link on the bottom
5. Change query name to “PS_QUERY_TRAINING_W8S1”
6. Click on the “Having” tab and delete the criteria.
7. Click on the “Fields” tab.
8. Turn off aggregate on all fields by clicking on Edit and selecting “None” for aggregate.
9. Edit “POTotal” heading and rename it “POTotal”
10. Click on the Expression tab
11. Turn off aggregate for existing expression.
12. Click OK and Save your query.
13. Click on the Query tab
14. Select “DeptID” and “Account” from table B “PO_LINE_DISTRIB”.
15. Click on the Fields tab
16. Arrange fields similar to match figure “Fields Arrangement”
17. Save your query and run it.
18. Note results record count and pick an account for comparison later. Leave results open.
19. Back to design, click on the Add Criteria for “POLineTotal”.
20. Change condition type to “greater than”.
21. Under Expression 2, enter “500”.
22. Click OK and save
23. Go to results session and click “View Results”
24. Note results record count has decreased. Leave results open.
25. Back to design, click on the Add Criteria for “POLineTotal”.
26. Change condition type to “greater than”.

27. Under Expression 2, enter “100”.
28. Click OK and save
29. Go to results session and click “View Results”
30. Note results record count did not change. Leave results open.
31. Back to design, click on the Add Criteria for “Account”.

Figure: Criteria Reordering
32. Under Expression 2, enter the account picked earlier.
33. Click OK and save
34. Go to results session and click “View Results”
35. Note results record count has decreased. Leave results open.
36. Back to design, click on the Criteria tab.
37. Prepare criteria to simplify grouping process.
38. Click on Reorder Criteria button
39. Arrange criteria ordering to match figure “Criteria Reordering”
40. Click OK and Save
41. Click on Group Criteria button
42. Since we want all accounts with $500 or more to show up in the results as well as one account
   with $100 or more, we begin grouping right at the $500 criteria.
43. In the space provided left of the $500 criteria, enter “(“.
44. In the space provide right of the account criteria, enter “)”).
45. Since we want values over $100 and the selected account match on every record, then we group
   these criteria together.
46. Enter “(“ on the left space provided for the $100 criteria

![Edit Criteria Grouping](image)

47. Enter another “)“ to the right of the account criteria, it should look like this “))”.
48. Click OK and save
49. Go to results session and click “View Results”
50. Note results record did not change. Leave results open.
51. In the criteria tab, change the logical value for the $100 criteria from “AND” to “OR”.
52. Click OK and save
53. Group Criteria should be similar to the figure “Criteria Grouping”
54. Go to results session and click “View Results”
55. Note results record did change. Leave results open.
56. Only the account you selected will result in values less than $100. All other accounts will not show values that is less than $500.
57. End of walkthrough
## Appendices

### Criteria Condition Types, Operators

*Extracted from PeopleBooks, organized for this document*

<table>
<thead>
<tr>
<th>Include</th>
<th>Exclude</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>between</td>
<td>not between</td>
<td>The value in the selected record field falls between two comparison values. The range is inclusive.</td>
</tr>
<tr>
<td>equal to</td>
<td>not equal to</td>
<td>The value in the selected record field exactly matches the comparison value.</td>
</tr>
<tr>
<td>exists</td>
<td>does not exist</td>
<td>This operator is different from the others, in that it does not compare a record field to the comparison value. The comparison value is a Subquery. If the Subquery returns any data, PeopleSoft Query returns the corresponding row.</td>
</tr>
<tr>
<td>greater than</td>
<td>not greater than</td>
<td>The value in the selected record field is greater than the comparison value.</td>
</tr>
<tr>
<td>in list</td>
<td>not in list</td>
<td>The value in the selected record field matches one of the comparison values in a list.</td>
</tr>
<tr>
<td>in tree</td>
<td>not in tree</td>
<td>The value in the selected record field appears as a node in a tree created with PeopleSoft Tree Manager. The comparison value for this operator is a tree or branch of a tree that you want PeopleSoft Query to search.</td>
</tr>
<tr>
<td>is null</td>
<td>is not null</td>
<td>The selected record field does not have a value in it. You do not specify a comparison value for this operator. Note: Key fields, required fields, character fields, and numeric fields do not allow null values.</td>
</tr>
<tr>
<td>less than</td>
<td>not less than</td>
<td>The value in the selected record field is less than the comparison value.</td>
</tr>
<tr>
<td>like</td>
<td>not like</td>
<td>The value in the selected field matches a specified string pattern. The comparison value may be a string that contains wildcard characters. The wildcard characters that PeopleSoft Query recognizes are % and _. % matches any string of zero or more characters. For example, C% matches any string starting with C, including C alone. _ matches any single character. For example, _ones matches any five-character string ending with ones, such as Jones or Cones. PeopleSoft Query also recognizes any wildcard characters that your database software supports. See your database management system documentation for details. To use one of the wildcard characters as a literal character (for example, to include a % in your string), precede the character with a \ (for example, percent%).</td>
</tr>
</tbody>
</table>