Introduction to Query
For Query Developers
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1. Query Viewer  
   Navigation: Reporting Tools > Query > Query Viewer  

A. Executing queries  

Steps  
1. Enter QY_TRN in the search criteria field  
2. Click the 'Search' button,  
   All queries with names that begin with the search characters that you entered in step a  
   will be displayed in a results grid. You can use the % wildcard character to return queries  
   that contain but don’t begin with the characters that you entered as a search criteria.  
3. Click on the ‘HTML’ hyperlink to the right of QY_TRN_04  
   A new browser window will be opened that will display the results for QY_TRN_04
4. Click on the Excel Spreadsheet hyperlink to download the query results to an Excel spreadsheet.

5. A download window will open providing options to Open the Excel file, save it to your workstation or cancel the request. Click the ‘Open’ button.

6. An Excel workbook will be opened in a new page, displaying your query results. Close the page by clicking on the X icon in the upper right hand corner of the Excel page.
7. You can also download results to Excel directly from the search page without first displaying them in a browser window. Click on the Excel hyperlink to the right of QY_TRN_04 and repeat steps e and f to open and then close the Excel window.
2. Query Manager
   Navigation: Reporting Tools > Query > Query Manager

   A. Working with Records

   Viewing Record Elements

   Steps
   1. Enter QY_TRN in the search criteria field
   2. Click the 'Search' button,
      All queries with names that begin with the search characters that you entered in step a
      will be displayed in a results grid. You can use the % wildcard character to return queries
      that contain but don’t begin with the characters that you entered as a search criteria.
   3. Click the 'Edit' hyperlink to the right of query QY_TRN_01
4. Click the Query tab to view the records that have been added to this query
5. Click the folder to the left of the JRNL_HEADER to see the fields that compose this record

The following points are for reference only. Please don’t modify the query field selection parameters at this time.

- The fields that have a check mark to the left of them will appear in your query results. Clicking on the checkbox will toggle the selection on and off.
- To select all fields to appear on the report click the ‘Check All Fields’ button
- To deselect all fields from the report click the ‘Uncheck All Fields’ button
- Key fields are indicated by a key symbol to the left of the field name. The combination of data in all key fields defines a unique row within a record. Key fields will be important when linking records together in more advanced queries.
Joining records

Often, not all of the information that you need in your query will be stored on a single record. If this is the case you will join additional records to your initial record. Once joined, the data fields on additional records can be selected in the same way that fields were selected on the initial record.

Joining records is the most sensitive aspect of query design as the join conditions affect the results that you will obtain and query performance. Up to four records can be joined within any query.

Records are joined by identifying common fields on each record and taking into account key fields and parent/child hierarchies between records. To help you identify valid join criteria, the query tool will recommend join conditions when you add a record to a query that already has at least one other associated record.
6. Click on the Records tab
7. Enter JRNL_LN in the record search criteria field
8. Hit the ‘Search’ button
9. Click on the ‘Join Record’ hyperlink to the right of the JRNL_LN record

10. Keep the default (Standard Join) Join Type.
11. Click the JRNL_HEADER hyperlink
12. Query will detect common fields and suggest join conditions. Click on the Add Criteria to accept the proposed join conditions. Do not deselect any of the join fields or your query results may be inaccurate. If no join condition is found, query did not identify common fields between the records that you are attempting to link. If this is the case, contact support for guidance on how to develop a query that will provide you with the information that you require. **Attaching records to a query without join criteria can affect application performance and should not be done.**
13. Click on the Query tab to confirm that the joined record is now available for field selection.

Removing Records

14. To remove a record from your query, click on the dash to the right of the record name on the Query tab. Remove the JRNL_LN record from your query. The application will prompt you for confirmation that you wish to delete the record. Click the ‘Yes’ button to confirm deletion.

Quick join options

Hierarchy Joins:
There is a pre-established hierarchy between some records within the Financials application. When this is the case, a row of data in one record must be associated with one or more rows of data in the associated record. As an example, there is a hierarchy between the Journal Header and Journal Line tables. For each row of data in the Journal Header table there must be one or more rows of corresponding data in the Journal Line table.
15. To facilitate joining records that have a hierarchy, query provides a ‘Hierarchy Join’ hyperlink on the Query Manager Query tab. Create a hierarchy join from the JRNL_HEADER table by clicking the ‘Hierarchy Join’ hyperlink to the right of the record name.

16. A listing of all tables that have a pre-established hierarchy with your initial table will be displayed. Click on the JRNL_LN hyperlink to join this table to your query.
Join criteria for hierarchy joins are pre-established and do not allow for modification. The join criteria between the records will be applied to the query and you will be brought back to the Query Manager Query tab.

Lookup Table Joins:

In addition to hierarchy relationships between tables, the Financials application contains pre-defined relationships between fields that hold control codes on transaction tables and the records that contain identifying data about the control codes.

17. Click the file folder to the left of the JRNL_HEADER record on your query to display the fields in this record.
18. Scroll down to the SOURCE field and click the ‘Join SOURCE_TBL –Journal Sources’ hyperlink to the right of the field name.

19. Accept the ‘Standard Join’ default option by clicking the OK button.
20. You will get receive a message that effective date criteria has been added to your query. Effective dates are associated with records that allow users to modify values over time. The effective date on the row identifies the date that the row becomes active. The row is active through the date that another row of data with the same key values but a later effective date is added. Query automatically creates join criteria to pull the active effective dated record for the date that the query is executed. Click the ‘OK’ button to acknowledge that the effective dated criteria has been added to the query.

You will be brought back to the Query Manager Query tab where you can confirm that the SOURCE_TBL has now been added to your query.
B. Working with data fields

Once you have joined records and selected the fields that will be included in your query there are several options for formatting results.

Reordering Fields

Steps

1. Click on the Fields tab to modify field formats

2. By default, fields are ordered according to order that you join records and their respective order within those records. To modify the order of fields click on the ‘Reorder/Sort’ button.
3. To change the order of fields, designate the modified field sequence number under the New Column header on the left side of the page. Specify a New Column value for all fields, not just those that you wish to modify.

**Specifying Sort Order**

4. If the query already has a sort order specified, the existing field sort priority will be specified under the ‘Order By’ column. The example query does not have a sort order specified so the column is blank. To specify a new sort order or to modify an existing one, indicate the priority of the sort for one or more fields in the ‘New Order By’ column. 1 is the first priority sort followed by 2, etc. By default, the sort will display results from lowest to highest value for each sort field. To order results from highest to lowest value for a field, click the checkbox to the right of the field in the ‘Descending’ column. Sort the query on JOURNAL_ID, JOURNAL_DATE and JRNL_HDR_STATUS in that order of priority. Click the Descending checkbox for JRNL_HDR_STATUS.

5. Hit the ‘OK’ button to save changes.
Changing field headers

6. Several records contain fields with default headers that are not sufficiently descriptive when combined with data from other records. To modify the column header for a field, click the ‘Edit’ button to the right of the field.

Click the ‘Edit’ button to the right of the DESCR field.

Column headers default to a short description stored in the application. This description is displayed on the Edit Field Properties page.
7. The application also stores a long description for each field. To use the long description for your query column heading, select the ‘RFT Long’ radio button and click the ‘OK’ button.

8. Confirm that the Heading Text for the DESCR field which was originally Descr has been modified to Description. In this case, the column heading is longer but not more descriptive.

9. Click on the Edit button to the right of the DESCR field again
10. Select the 'Text' Radio Button to specify a custom header description.
11. Enter 'Header Descr' in the 'Heading Text' Field then click the OK button to save your changes.

12. Confirm that the Heading Text for the DESCR field which was set to 'Description' has now been modified to 'Header Descr'.
Translate Value Fields

An N in the XLAT column indicates that the no translation table description has been selected. The code value held in the record field will appear in the result set. This is the default format setting for XLAT fields. Edit options on XLAT fields allow you to select an application maintained short or long description instead of the default code.

13. Click the Edit button to the right of the JRNL_HDR_STATUS row. The result set for this query contained a P in the JRNL_HDR_STATUS column when it was executed earlier in the training session.
14. Click the Long radio button in the Translate Value box to replace the code for this field with a long description.

15. Hit the OK button to accept the Edit Field changes

Note that the XLAT value for this field has been updated to L to indicate that query results will include the XLAT table long description for this field. If we had selected the short XLAT description, the selection would have been indicated with an S.
16. Click on the Run tab to execute the query.

17. Note that the status field that previously contained a single letter code now contains the long description associated with that code.
Aggregating Data

Query allows several options for aggregating field values across multiple rows of data. When aggregation options are indicated for one or more fields in a query a single result row will appear for each **unique combination of non-aggregated field values**. Aggregation is only performed on rows where all non-aggregated fields share identical values.

18. Use the menu navigation bar to edit query QY_TRN_03
Reporting Tools > Query > Query Manager

19. Click the Run tab and enter From Date: 5/1/08 and To Date: 5/31/08. Click the OK button to execute the query.
20. The result set for this query is limited to journals with journal dates in May of 2008. In addition, this query limits results to Valid and Posted journals. Six rows of data meet these criteria.

21. Click on the Fields tab. Field aggregation will be indicated in the Agg column on this tab. Currently there is no aggregation within this query so the column is blank for all fields.

22. Click on the Edit button to the right of the MONETARY_AMOUNT Field
The aggregate box option is currently set to None. Individual row detail is displayed in the query result set since aggregation is not indicated. Note that there are no XLAT field options because MONETARY_AMOUNT is not a field that has an associated translate value table.

23. Click on the Sum radio button in the Aggregate box.
24. Click on the OK button to save the aggregate setting.
25. Note that the Agg column now indicates Sum for the MONETARY_AMOUNT field. Click on the RUN tab to generate query results.
26. Note that there is no change in the result set that was returned. Aggregation had no impact on query results because each of the rows contains a unique combination of values in non-aggregated fields.

27. Click on the Fields tab

28. Click the - button to the right of the JOURNAL_LINE to delete the field from the result set

29. Repeat step 28 for the ACCOUNT, DEPTID, DESCR and LINE_DESCR fields
30. You will have six fields after completing deletions. Click on the Run tab to execute the query and enter 5/1/08 as the From Date and 5/31/08 as the To Date when prompted.

31. Note that only two lines are now returned in the result set. They represent the unique combinations of non-aggregated field values. The MONETARY_AMOUNT field shows the sum of the underlying lines for each combination. The sum for each result set line is $0 because we are aggregating at the journal level and these journals are balanced entries summing to $0.

32. Click on the Fields tab.
33. Click on the Edit button to the right of the MONETARY_AMOUNT field.

Step 2.B33

34. Change the Aggregate radio button to Count.
35. Click the OK button to save your change.

Step 2.B34

Step 2.B35
36. Click the Run tab to execute the query

37. Enter a From Date of 5/1/08 and a To Date of 5/31/08 when prompted and hit the OK button.

38. Note that your result set still aggregated data based on unique combinations of non-aggregated fields. However the MONETARY_AMOUNT field now contains a count of the rows that are included in each aggregated line.
The following table provides a description of all aggregation options.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>Will not use aggregate functions.</td>
</tr>
<tr>
<td>Sum</td>
<td>Adds the values from each row and displays the total.</td>
</tr>
<tr>
<td>Count</td>
<td>Counts the number of rows.</td>
</tr>
<tr>
<td>Min</td>
<td>Checks the value from each row and returns the lowest value.</td>
</tr>
<tr>
<td>Max</td>
<td>Checks the value from each row and returns the highest value.</td>
</tr>
<tr>
<td>Average</td>
<td>Adds the values from each row and divides the result by the number of rows.</td>
</tr>
</tbody>
</table>

C. Working with Query Criteria

When you execute a query, the result set will include data for all rows in the record that you have selected. If multiple tables have been joined, the tool will return data for all rows that have an associated record in each joined table.

In most cases, you will want to filter your results to a subset of data. To accomplish this task, the query tool allows you to define criteria that define what data will be returned upon execution. To establish criteria you will select a data field and indicate a range of values. Only rows of data where field values fall within this range will be returned when the query is executed. You can establish multiple criteria to limit results based on values in multiple fields.

1. Use the menu navigation bar to edit query QY_TRN_02
   Reporting Tools > Query > Query Manager
Steps

2. Click on the Run tab to execute the query without criteria. The result set contains 126 rows of data as indicated above the query results.
3. Click on the Criteria tab

In our example, the journal header and journal line tables have been selected and joined. Query results will include all data from these tables. To limit the results to a specific date range we will specify the range in a criteria line.

4. Click on the Add Criteria button
5. In this course we will work with field based criteria. Confirm that the expression type is ‘Field’.

6. Click the magnifying glass icon in the ‘Choose Record and Field’ box to select the field that criteria will be applied against.

7. A listing of the records that you have added to your query and associated fields will be displayed. By default the fields for the first record added to the query will be displayed. Click on the JOURNAL_DATE field to select it.
8. You will be returned to the criteria definition page. Note that JOURNAL_DATE has now been identified as the active field for this criteria.
9. The condition type defines how valid values will be indicated. Click on the drop down box to the right of the field and select the between condition type.
Note that parameter fields for Expression2 have been modified to reflect that the between condition type requires an upper and lower limit to define a valid data range for the field specified in Expression 1.

10. Click on the calendar page icon to the right of Constant 1 and use the drop down box to the right of the month to navigate to May 2008. Click on the 1 in the resulting calendar page to select May 1, 2008 as the lower range of valid date values for this criteria.

11. Enter ‘05/31/2008’ for Constant 2 to define the upper limit of the valid range for JOURNAL_DATE.

12. Click the OK button to save the criteria.
13. Note that a criteria line has now been added to your query. You can edit the criteria by clicking the 'Edit' button to the right of the criteria line.

- For reference only: You can delete a criteria line by clicking the '-' button to the right of the line.

14. Click the Add Criteria button to add another criteria line.
15. Click the Expression 1 drop down box and scroll down until you can select the JRNL_HDR_STATUS field.
16. Click on the magnifying glass to the right of Expression 2 to get a valid list of the valid values for the JRNL_HDR_STATUS.
17. Click on the select constant to the right of the P field value to filter query results to journals that have been posted to the ledger.

18. Note that the single constant value of ‘P’ is now indicated as the valid range for the JRNL_HDR_STATUS. Click the OK button to save the criteria.
19. The additional criteria line has now been added to your query. Hit the save button to save the query and then
20. Click on the Run tab to execute the query with journal date and header status criteria.

Note that the query that produced a result set that contained 126 rows before applying criteria now contains only 2 rows of data.
21. Click the Criteria tab
22. Click the edit button to the right of the JRNL_HDR_STATUS criteria

23. Use the drop down box to the right of the Condition Type field to select the 'in list' option
24. Click the magnifying glass icon to select the values that will compose the list of valid values for inclusion on the query result set
25. Click the Add Value button to the right of the ‘Valid’ row. You can also add values by typing them into the Value field at the top of the page and hitting the Add Value button to the right of that field.

26. Note that the journal status of ‘V’ has been added as to the list of valid list members. Click on the Add Value button to the right of the field value P to add it to the valid list.
27. Click on the OK button to save the list

28. Click on the Run tab to execute the query with the modified criteria.
Note that the query result set now included an additional 4 journals with a status of Valid.

Adding a prompt

Query criteria that are defined with constants allow you to filter a query result set but the criteria must be updated each time that the parameters change. To eliminate the need for frequent design changes and multiple variations of a single query, the query tool allows the creation of prompts. Prompts are variables that accept values from the user at the time of execution.

29. Click on the Prompts tab
30. Click on the Add Prompt button to create a new prompt

31. The easiest way to define a prompt is by selecting the field that the criteria will be based upon. Click on the magnifying glass icon under Field Name to designate a prompt field.
32. Enter JOURNAL_DATE in the Search by field.
33. Hit the Search button to retrieve fields that start with that character string.
34. Click on JOURNAL_DATE to select that field

You will be returned to the Edit Prompt Properties. The field type, format, length and heading will default from the field that you selected. A unique prompt name will be automatically assigned.

35. Modify the heading by selecting a heading type of Text and enter ‘From Date’ as the heading text.
36. Modify the Unique Prompt Name to FROM_DT to make it more descriptive
37. Hit the OK button to save the prompt
Repeat steps 2.C.29 through 2.C.36 to create a second JOURNAL_DATE prompt

38. Modify the heading by selecting a heading type of Text and enter ‘To Date’ as the heading text.
39. Modify the Unique Prompt Name to TO_DT to make it more descriptive
40. Hit the OK button to save the prompt

41. To apply the new prompts click the Criteria tab
42. To apply the new prompts click the Edit button to the right of the JOURNAL_DATE criteria.

Step 2.C.42

43. Select Expr – Expr for the Expression 2 Type
44. Click the Add Prompt button under Define Expression and select the From Date prompt. You will be returned to the Edit Criteria Properties page and the prompt sequence number (:1) will be added to the Expression definition.
45. Click the Add Prompt button under Define Expression 2 and select the To Date prompt. You will be returned to the Edit Criteria Properties page and the prompt sequence number (:2) will be added to the Expression 2 definition.
46. Click the OK button save criteria changes
47. Click the Run tab to execute the query.

You will be prompted to enter a value for each prompt that is used within query criteria.

48. Enter 5/1/2008 as the from date using the calendar drop down or by typing directly into the field.
49. Enter 5/31/2008 as the to date using the calendar drop down or by typing directly into the field.
50. Click the OK button to execute the query.
Query results match the results from the previous execution where constants were used instead of prompts. However, the query can now support reporting for any time period without modification.

D. Organizing Queries

Query Properties

Query properties define how a query is identified, where it is stored and who has access to view, modify and execute the query. Properties are initially set when a query is saved. However it is possible to modify all properties other than the query name at a later date.
Accessing query properties for an existing query

1. Click on any tab other than the Run tab
2. Click the properties hyperlink at the bottom of the page.
In order to save a query you must specify three mandatory field values, Query (Name), Query Type and Owner.

- **Query** field stores the query name which may be up to 30 characters long. Please adhere to the custom query naming conventions in Appendix A.
- **Query Type** will always be ‘User’
- **Owner** will be either Private or Public. If you specify Private you are the only person who will be able to access the query. If you specify Public all users with access to the query tool will be able to access the query.

In addition to the mandatory fields it is recommended that you enter the following optional descriptive fields.

- **Description** is a 30 character short description
- **Query Definition** provides a place to store an extended description. It is recommended that you include the developer’s name and the date that the query was last modified as well a brief description of the query including its intended use.

The following fields are also available on the query properties page

**Distinct** is a formatting setting which will eliminate duplicate rows of data in your query result set when checked. Distinct queries provide a listing of unique field combinations that meet your query criteria. This option is similar to aggregation in that multiple rows returned by the query are presented as a single row in the query result set.
Folder is an organizational field that allows you to group related queries and to identify your queries from those created by other users. To place a query in a folder, enter the folder name in the Folder field. If the folder exists, the query will be added to it. If the folder does not exist, it will be created. Folders stay in existence as long as they contain at least one query.

Query Manager and Query Viewer search pages allow you to limit search results to a single folder or to search all folders.

Query Actions

There are several query maintenance actions that you can perform from the Query Manager search page:

- Add to Favorites
  Adds query to Favorite queries list shown at the bottom of the query search page
- Copy to User (limited to private queries)
  Copies private queries to another user allowing them to manipulate and execute the copy without affecting the original query
- Delete Selected
  Removes obsolete queries. You should only delete your private queries or public queries over which you have maintenance authority
- Move to Folder
  Moves queries to the folder specified
- Rename Selected
  Allows you to rename selected queries
Actions can be performed on one or many queries by executing the following steps and supplying the appropriate parameters for the selected action

3. Select the checkbox to the left of the query name for each query affected
4. Select the appropriate action from the Action drop down list
5. Hit the Go button.
### APPENDIX A
#### Criteria Condition Types

<table>
<thead>
<tr>
<th>Condition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>between</td>
<td>The value in the selected record field falls between two comparison values. The range is inclusive.</td>
</tr>
<tr>
<td>not between</td>
<td>The value in the selected record field does not fall between two comparison values. The range is inclusive.</td>
</tr>
<tr>
<td>equal to</td>
<td>The value in the selected record field exactly matches the comparison value.</td>
</tr>
<tr>
<td>not equal to</td>
<td>The value in the selected record field does not exactly match the comparison value.</td>
</tr>
<tr>
<td>greater than</td>
<td>The value in the record field is greater than the comparison value.</td>
</tr>
<tr>
<td>not greater than</td>
<td>The value in the record field is not greater than the comparison value.</td>
</tr>
<tr>
<td>less than</td>
<td>The value in the record field is less than the comparison value.</td>
</tr>
<tr>
<td>not less than</td>
<td>The value in the record field is not less than the comparison value.</td>
</tr>
<tr>
<td>in list</td>
<td>The value in the selected record field matches one of the comparison values in a user specified list.</td>
</tr>
<tr>
<td>not in list</td>
<td>The value in the selected record field does not match one of the comparison values in a user specified list.</td>
</tr>
<tr>
<td>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 wild-card 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.</td>
</tr>
<tr>
<td>not like</td>
<td>The value in the selected field does not match a specified string pattern. The comparison value may be a string that contains wildcard characters. The wild-card 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.</td>
</tr>
<tr>
<td>Operator</td>
<td>Description</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>exists</td>
<td>Using subquery criteria is an advanced topic that will be addressed in supplemental query training. Please do not use the Exists or Does Not Exist condition types at this time. 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>does not exist</td>
<td>Using subquery criteria is an advanced topic that will be addressed in supplemental query training. Please do not use the Does Not Exist condition types at this time. 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 does not return any data, PeopleSoft Query returns the corresponding row.</td>
</tr>
<tr>
<td>in tree</td>
<td>Using tree criteria is an advanced topic that will be addressed in supplemental query training. Please do not use the in tree or not in tree condition types at this time. 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>not in tree</td>
<td>Using tree criteria is an advanced topic that will be addressed in supplemental query training. Please do not use the in tree or not in tree condition types at this time. The value in the selected record field does not appear 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>Please note, many fields in the Financials application are assigned a default value (0 for numerical fields and a single space for character fields) when an actual value is not specified. The selected record field does not have a value in it. You do not specify a comparison value for this operator. Key fields, required fields, character fields, and numeric fields do not allow null values.</td>
</tr>
<tr>
<td>Is not null</td>
<td>Please note, many fields in the Financials application are assigned a default value (0 for numerical fields and a single space for character fields) when an actual value is not specified. The selected record field does not have a value in it. You do not specify a comparison value for this operator. Key fields, required fields, character fields, and numeric fields do not allow null values.</td>
</tr>
</tbody>
</table>
APPENDIX B
Advanced Topics
(Will be addressed in an advanced Query course)

Left outer joins
Query limits results to data that has corresponding rows of data in all joined records. If a row of data in record A does not have at least one corresponding row of data in record B (based on record join conditions), results will not contain the data from record A.

Establishing a left outer join between the records allows you to include all rows of data from record A even when there are no corresponding rows in record B. Result fields from record B will be blank. Left outer joins introduce some limitations when establishing field criteria.

Unions
Unions allow the results of two queries to be combined into a single result set. They are useful when you wish to view data that meet either of two distinct criteria conditions.

Subqueries
Subqueries are used within criteria to dynamically identify a valid range of values. Using a subquery you could limit results to rows of data that

Expressions
Expressions allow you to manipulate field data. Expressions require the use of mathematical operators or Oracle commands.

Tree Criteria
Financials uses a structure called a tree to identify hierarchy relationships between data. For example, accounts may be grouped into an account category or departments grouped into divisions. Specifying criteria based on tree values allow you select a range of data that falls within an aggregate tree grouping. Using tree criteria eliminates the need to specify specific data values and to modify the criteria if the data changes.

Having Criteria
Query applies criteria on a row by row basis to determine the data that will be included in the query result set. Having criteria allow you to apply criteria based on aggregated data across several rows of data that share a common field value.

Using having criteria you could return a listing of all purchase orders by departments and limiting results to departments that have ordered more than $50,000 in total purchases within a specified time period.

AND/OR criteria
Logical operators expand criteria development capabilities and introduce a level of complexity based on the grouping and placement of individual criteria.