MINI COURSE IN PEOPLESOFT QUERY

By Gregory Patterson

Multiple Tables

Working with Multiple Tables

When writing queries, it is very simple to retrieve information from one table. But sometimes there will be a need to retrieve information from more than one table. In these cases, you need to link two or more tables in one query.

A record listed in your Record search may represent either a table or a view. A table physically stores specific data. A view is a logical representation of data and may consist of data from multiple tables.

Sometimes it is easier for the user to submit a request to the developers to create a view than it is to create multiple table queries. This way the user will only need to view one record in their query instead of accessing multiple tables and specifying additional criteria.

Joins

A join enables you to retrieve data from two or more records or specify criteria from more than one record. Whenever you perform a join, the records involved are linked based on common fields.

In Query, predefined joins can be generated as a “hierarchical” join or a “related record” join. Since these types of joins are predefined, you do not have to add any criteria to link the records.

<table>
<thead>
<tr>
<th>Record Hierarchy</th>
<th>Related Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Hierarchical join uses records that are parents or children of each other. The hierarchical relationship is defined by the Parent Record definition in Application Designer. This is how the system “knows” the relationships.</td>
<td>Related Record joins use records from non-hierarchical records that are related by common fields. For example, description tables for common codes are related records. This relationship is determined by the Prompt Table Edit defined for a field in the Application Designer.</td>
</tr>
</tbody>
</table>

Record Hierarchy Join

Returning to our prospect query, which uses the table ADM_PRSPCT_CAR, lets say we are now interested in which program and plan the potential students have shown interest in. This information turns out to be part of the record hierarchy. (As a rule of thumb, if the pieces of data you are looking for are in the same PeopleSoft component or grouping of pages, chances are the tables are all in the record hierarchy. The tables that hold the descriptions usually seen to the right if fields are on Related Records.)
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Click the **Hierarchy Join** link.

The data we are looking for is in the ADM_PRSPCT_PROG and ADM_PRSPCT_PLAN tables. Click them one at a time to bring them into the Query. It’s strongly recommended to add tables in the order listed and not skip any in the middle, even if you don’t need data from that table. PeopleSoft will automatically create the join logic for you. To view the results, you’ll need to look at the SQL View page. You can now add fields and criteria to your query based on information from any of the 3 tables.
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Related Record Joins

The related records are specific to a field in the current record. If a field has a related record, you will see the record displayed as a hyperlink next to the field. In this case, we want the description of the term to show rather than the four digit code.

Typically, descriptions are in setup or definition tables. The names of those tables normally end with "_TBL". Click the link:

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Normally you will select the Standard Join. If the related table is effective dated, you will be notified. You can now select fields from the new table to be incorporated in the query results.

Manual Joins

It is possible to do joins that aren’t controlled by the system. In these cases, you are required to know the tables and how they should be joined together. In our example, it’s decided that the Acad Plan code should be expanded to the plan description. There is no related table join suggested on the query page, but we know that the ACAD_PLAN_TBL table contains the description. Go to the Records tab and add the table by clicking the Join Table link.

Find an Existing Record

Search By: Record Name begins with ACAD_PLAN_TBL
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The Join Record page presents a list of tables already part of your query, and asks which one the new table should be joined to.

Select join type and then record to join with ACAD_PLAN_TBL - Academic Plan Table.

Join Type
- [ ] Join to filter and get additional fields (Standard Join)
- [ ] Join to get additional fields only (Left outer join)

Join Record
- A = ADM_PRSPCT_CAR - Admission Prospect Career
- B = ADM_PRSPCT_PRG - Admission Prospect Program joined with A
- C = ADM_PRSPCT_PLAN - Admission Prospect Plan joined with B
- D = TERM_TBL - Term Definition Table joined with A ADMIT_TERM - Admit Term

We will select the Standard Join and join the new ACAD_PLAN_TBL to the ADM_PRSPCT_PLAN table by clicking the appropriate link. The query manager looks for fields common in both tables and suggests that they all be used to join the two tables. We know that ACAD_CAREER should not be used for the join in this case so we uncheck it.

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.

- [ ] C.ACAD_CAREER - Academic Career = E.ACAD_CAREER - Academic Career
- [x] C.INSTITUTION - Academic Institution = E.INSTITUTION - Academic Institution
- [x] C.ACAD_PROG - Academic Program = E.ACAD_PROG - Academic Program

Click the Add Criteria button and now you can select fields from the new table.
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Outer Joins

There may be cases when doing joins where there is not enough data for the system to join the two tables. For example, we may want to see the name of the Prospects last school attended (instead of just the organization ID) but not all prospects have that data on file. With a regular join, those rows that did not have an organization ID simply would not be included in the query results. If we still want to see those rows, we need to do an “Outer Join”. We know that the names of the schools are contained in the EXT_ORG_TBL record, so let’s add it with a Left Outer Join type.

Select join type and then record to join with EXT_ORG_TBL - External Organization Table.

<table>
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<tr>
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</tr>
<tr>
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</tr>
</tbody>
</table>

When we click the Join Record link in this case we get this warning:

Pay very close attention to this warning! Either make a join, or remove the table. In this case we happen to know that A.LAST_SCH_ATTEND is really the same as B.EXT_ORG_ID. We create a criteria to that effect and make it part of the outer join clause.
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At this point the query still only returns rows where the LAST_SCH_ATTEND is actually populated. That’s because the EXT_ORG_TBL is effective dated. We have to add a criteria that accounts for null effective dates.

Pay close attention to the AND/OR constructs and the criteria grouping. The results look like the following.
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