

## 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.

Record Hierarchy	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.
Related Record	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.

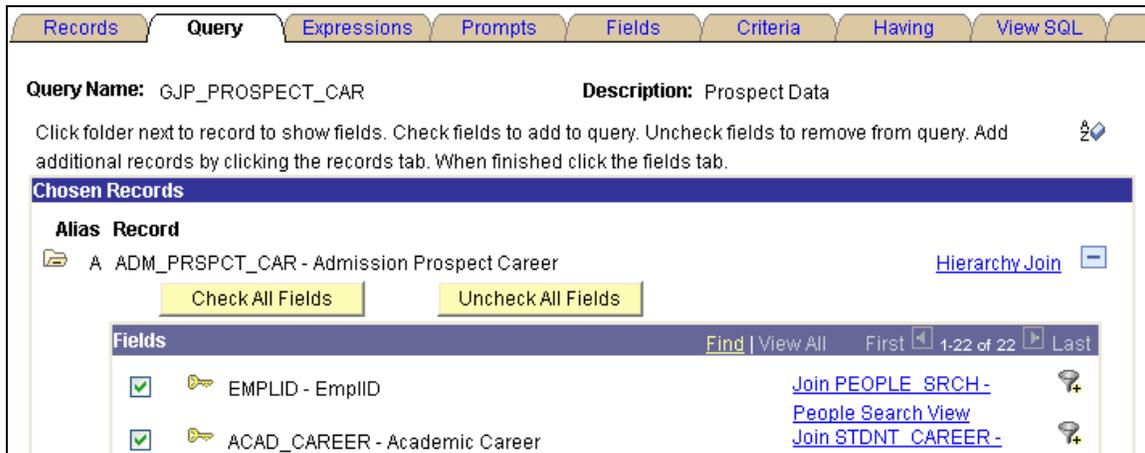
#### Record Hierarchy Join

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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**Records** | **Query** | Expressions | Prompts | Fields | Criteria | Having | View SQL

**Query Name:** GJP\_PROSPECT\_CAR      **Description:** Prospect Data

Click folder next to record to show fields. Check fields to add to query. Uncheck fields to remove from query. Add additional records by clicking the records tab. When finished click the fields tab.

**Chosen Records**

**Alias Record**

ADM\_PRSPCT\_CAR - Admission Prospect Career      [Hierarchy Join](#)

Check All Fields      Uncheck All Fields

**Fields**      Find | View All      First 1-22 of 22 Last

<input checked="" type="checkbox"/>	EMPLID - EmplID	<a href="#">Join PEOPLE_SRCH-</a>	
<input checked="" type="checkbox"/>	ACAD_CAREER - Academic Career	<a href="#">People Search View</a>	
		<a href="#">Join STDNT_CAREER-</a>	

Click the [Hierarchy Join](#) link.



**Select record for hierarchy join**

Left | Right

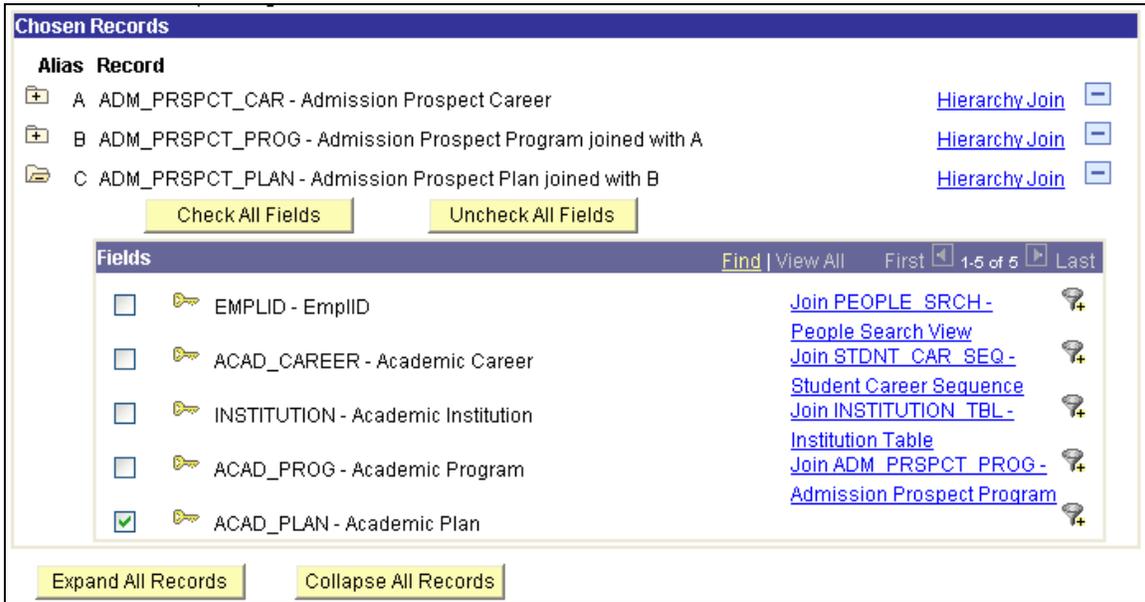
- PERSON - PERSON record
  - STDNT\_CAREER - Student Career
  - ADM\_PRSPCT\_CAR - Admission Prospect Career
    - ADM\_PRSPCT\_PROG - Admission Prospect Program
    - ADM\_PRSPCT\_PLAN - Admission Prospect Plan
    - ADM\_PRSPCT\_SBPL - Admission Prospect Sub Plan
  - PRSPCT\_RCR\_CAT - Prospect Recruiting Categories
  - PRSPCT\_RECRTER - Prospect Recruiters

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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**Chosen Records**

**Alias Record**

- A ADM\_PRSPCT\_CAR - Admission Prospect Career [Hierarchy Join](#) [-]
- B ADM\_PRSPCT\_PROG - Admission Prospect Program joined with A [Hierarchy Join](#) [-]
- C ADM\_PRSPCT\_PLAN - Admission Prospect Plan joined with B [Hierarchy Join](#) [-]

[Check All Fields](#) [Uncheck All Fields](#)

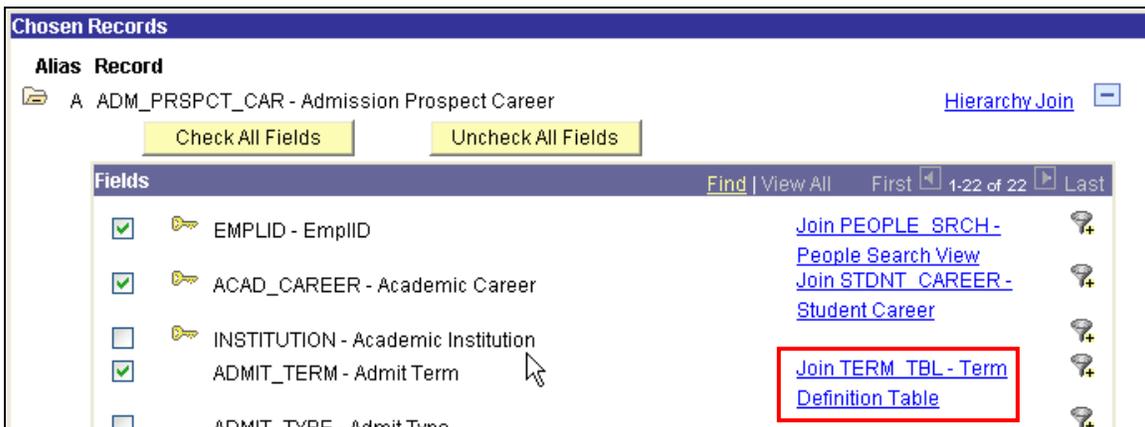
**Fields** Find | View All First 1-5 of 5 Last

Field	Description	Join Link	Icon
<input type="checkbox"/>	EMPLID - EmplID	<a href="#">Join PEOPLE_SRCH - People Search View</a>	🔊
<input type="checkbox"/>	ACAD_CAREER - Academic Career	<a href="#">Join STDNT_CAR_SEQ - Student Career Sequence</a>	🔊
<input type="checkbox"/>	INSTITUTION - Academic Institution	<a href="#">Join INSTITUTION_TBL - Institution Table</a>	🔊
<input type="checkbox"/>	ACAD_PROG - Academic Program	<a href="#">Join ADM_PRSPCT_PROG - Admission Prospect Program</a>	🔊
<input checked="" type="checkbox"/>	ACAD_PLAN - Academic Plan		🔊

[Expand All Records](#) [Collapse All Records](#)

### 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.



**Chosen Records**

**Alias Record**

- A ADM\_PRSPCT\_CAR - Admission Prospect Career [Hierarchy Join](#) [-]

[Check All Fields](#) [Uncheck All Fields](#)

**Fields** Find | View All First 1-22 of 22 Last

Field	Description	Join Link	Icon
<input checked="" type="checkbox"/>	EMPLID - EmplID	<a href="#">Join PEOPLE_SRCH - People Search View</a>	🔊
<input checked="" type="checkbox"/>	ACAD_CAREER - Academic Career	<a href="#">Join STDNT_CAREER - Student Career</a>	🔊
<input type="checkbox"/>	INSTITUTION - Academic Institution		🔊
<input checked="" type="checkbox"/>	ADMIT_TERM - Admit Term	<a href="#">Join TERM_TBL - Term Definition Table</a>	🔊
<input type="checkbox"/>	ADMIT_TYPE - Admit Type		🔊

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

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**Select join type**

**Join Type**

Join to filter and get additional fields (Standard Join)

Join to get additional fields only (Left outer join)

OK    Cancel

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.

View All | [Rerun Query](#) | [Download to Excel](#) First 1-50 of 50 Last

	EmplID	Term	Acad Prog	Acad Plan	Refri Srce	Career
1	AA0037	2001 Fall	FAU	ART	INQ	UGRD
2	AD5022	2001 Fall	LAU	BIOLBS	APPL	UGRD
3	AD5023	2001 Fall	FAU	ART	CRS	UGRD

### 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.

**Records**    Query    Expressions    Prompts    Fields    Criteria    Having

**Query Name:** GJP\_PROSPECT\_CAR      **Description:** Prospect Data

**Find an Existing Record**

\***Search By:**    Record Name    begins with    ACAD\_PLAN\_TBL

   [Advanced Search](#)

**Search Results**

Record	Customize	Find	View All	First	1 of 1	Last
<b>Recname</b>		<b>Join Record</b>	<b>Show Fields</b>			
ACAD_PLAN_TBL - Academic Plan Table		<a href="#">Join Record</a>	<a href="#">Show Fields</a>			

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The Join Record page presents a list of tables already part of you 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** Customize | Find |  First 1-4 of 4 Last

[A = ADM\\_PRSPCT\\_CAR - Admission Prospect Career](#)

[B = ADM\\_PRSPCT\\_PROG - 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

C.INSTITUTION - Academic Institution = E.INSTITUTION - Academic Institution

C.ACAD\_PROG - Academic Program = E.ACAD\_PROG - Academic Program

C.ACAD\_PLAN - Academic Plan = E.ACAD\_PLAN - Academic Plan

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

	EmpID	Term	Acad Prog	Descr	Refl Srce
1	AA0037	2001 Fall	FAU	Art (BFA)	INQ
2	AD5022	2001 Fall	LAU	Biology (BS)	APPL
3	AD5023	2001 Fall	FAU	Art (BFA)	CRS
4	AD5024	2001 Fall	LAU	Biology (BS)	DPIN

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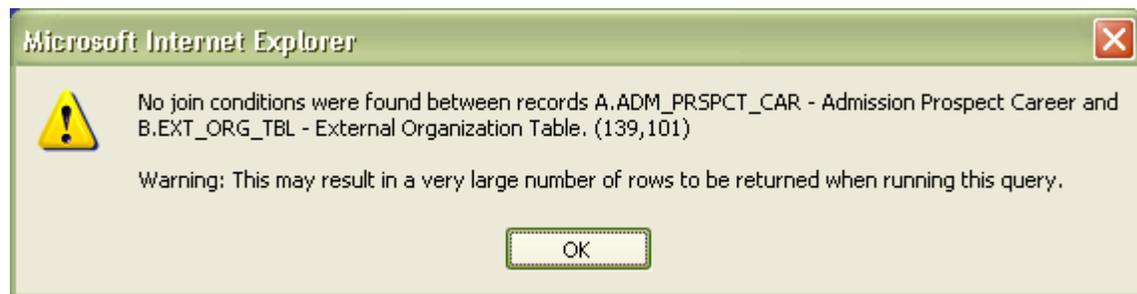
### Multiple Tables

#### 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.



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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**Edit Criteria Properties**

Choose Expression 1 Type  
 Field  
 Expression

Expression 1  
 Choose Record and Field  
 Record Alias.Fieldname:  
 A.LAST\_SCH\_ATTEND - Last School

\*Condition Type: equal to

Choose Expression 2 Type  
 Field  
 Expression  
 Constant  
 Prompt  
 Subquery

Expression 2  
 Choose Record and Field  
 Record Alias.Fieldname:  
 B.EXT\_ORG\_ID - External Org ID

This criteria belongs to  
 ON clause of outer join B

OK Cancel

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.

**Query Name:** GJP\_PROSPECT\_CAR1 **Description:**

Add Criteria Group Criteria Reorder Criteria

Logical	Expression1	Condition Type	Expression 2	Edit	Delete	Belongs to
AND	A.LAST_SCH_ATTEND - Last School Attended	equal to	B.EXT_ORG_ID - External Org ID	Edit	-	B
	A.INSTITUTION - Academic Institution	equal to	PSUNV	Edit	-	
AND	A.ADMIT_TERM - Admit Term	equal to	0410	Edit	-	
AND	(B.EFFDT - Effective Date	Eff Date <=	Current Date	Edit	-	
OR	B.EXT_ORG_ID - External Org ID	is null	)	Edit	-	

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

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	Career	Lst School	ID	City	Descr
1	BUSN		AD1081		
2	BUSN		AD1085		
3	BUSN	000010040	AD1079	San Jose	Evergreen Valley College
4	BUSN	000010125	AD1077	Chicago	Lexington College
5	BUSN	000010140	AD1078	Hubei Province	Wuhan University
6	GRAD	000010092	AD1003	Putney	Landmark College



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