

Microsoft Access Queries – Topic 2 Join Types

The most common type of JOIN in an Access Query is an INNER JOIN. Let's take for an example the 3 tables below Books, Members, and CheckOuts. In table CheckOuts we record both the MemberID checking out the book and the BookID checked out.

BookID	BookTitle	AuthorID	PublishedDate	LastEditedDate
1	Carrie	1	4/5/1974	1/1/2002
2	The Stand	1	1/1/1978	1/1/1994
3	The Shining	1	1/1/1977	1/1/1980
*	(New)	0		

MemberID	MemberFirstName	MemberLastName	MemberFullName
1	Maria	Barnes	Maria Barnes
2	Tom	Jones	Tom Jones
3	Sally	Smith	Sally Smith
*	(New)		

CheckOutID	MemberID	BookID
1	1	1
2	2	2
*	(New)	0

Now suppose you want to create a query to figure out who has what book checked out. This query is probably something you are used to. You add both table and then create a link between them by dragging the matching field from the first table to the second. Then you double click on the fields you want to show. What you may not realize is that once you have created the JOIN, you can edit the type by right clicking on the line connecting the 2 tables and selecting "Join Properties". Notice that in this (the default) JOIN "Only include rows where the joined fields from both tables are equal." Is selected.

The screenshot shows the 'CheckedOutBooks' query in Access. The 'Join Properties' dialog box is open, showing the join type set to '1: Only include rows where the joined fields from both tables are equal.' The query grid below shows the fields selected for the query:

Field:	BookID	BookTitle	CheckOutID	MemberID
Table:	Books	Books	CheckOuts	CheckOuts
Sort:				
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:				
or:				

Your results, predictably are shown below. Notice that "The Shining" does not appear in the results because no one has it checked out.

BookID	BookTitle	CheckOutID	MemberID
1	Carrie	1	1
2	The Stand	2	2
*	(New)	(New)	

Next suppose you want to create a query to figure out the status of books in your library. In this case you need to edit the default JOIN and choose “Include ALL records from [Table 1] and only those records from [Table 2] where the joined fields are equal.” Notice the way the line ends in a point at Table 1 and an arrow at Table 2. This is called a LEFT JOIN.

The screenshot shows the 'Join Properties' dialog box for a query named 'BookCheckedOutStatus'. The dialog is configured for a LEFT JOIN between the 'Books' table (Left Table Name) and the 'CheckOuts' table (Right Table Name). The join is based on the 'BookID' field in both tables. The selected option is '2: Include ALL records from 'Books' and only those records from 'CheckOuts' where the joined fields are equal.' Below the dialog, a portion of the query design grid is visible, showing the 'Status' field with the criteria: `IIf(IsNull([CheckOutID]), "Available", "CheckedOut")`.

Your results are shown below. Notice that this time “The Shining” appears in the results with a Status of Available since no one has it checked out.

The screenshot shows the results of the query 'BookCheckedOutStatus'. The results are displayed in a table with the following data:

BookID	BookTitle	Status
1	Carrie	CheckedOut
2	The Stand	CheckedOut
3	The Shining	Available
*	(New)	

Finally suppose you want to create a query to figure out the status of members in your library. In this case you would remove the table Books, add the table Members, then edit the JOIN and choose “Include ALL records from [Table 2] and only those records from [Table 3] where the joined fields are equal.” Notice the way the line ends in an arrow at Table 1 and a point at Table 2. This is called a RIGHT JOIN.

Field:	MemberID	MemberFullName	CheckedOut: If(IsNull([CheckOutID]),"None","CheckedOut")	BookID	
Table:	Members	Members		CheckOuts	
Sort:					
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Criteria:					
or:					

Your results are shown below. Notice that all Members appear. Sally Smith shows that she has None checked out and the BookID she has checked out is blank.

MemberID	MemberFullName	CheckedOut	BookID
1	Maria Barnes	CheckedOut	1
2	Tom Jones	CheckedOut	2
3	Sally Smith	None	
*	(New)		