BillQuick-Crystal Reports Guide 2017

CONTENTS

INTRODUCTION

Overview

Crystal Reports is a report design and development software used to write report template modules and can report from a variety of data sources. All BillQuick reports and invoice templates are designed in the Crystal Reports developer software. BillQuick uses Crystal Reports API to generate report and invoice-related previews. Upon preview, BillQuick sends the current database connection to a report in order to access your company data.

In addition, BillQuick sends formula updates to the report being launched, such as User ID of the person running the report, custom labels to change terms like Project/Job/Engagement, first day of the week, etc. Therefore, through customization, it is possible to auto filter report by the person running it. This is useful from the security point of view as it allows you to preview only those records logged by you.

All our standard reports and invoices are pre-connected to a sample Microsoft Access database that comes with the software so that the program can understand and update the connections on the fly. Users who pre-connect reports to a SQL database or use the built-in tools to modify reports might experience report login issues if the database changes name or location. The sample database (*Access*) uses User ID *admin* and Password *admin*. BillQuick never removes database fields from year to year; rather it only adds new ones. This means that older reports of BillQuick 2016 will work in BillQuick 2017; however, 2017 reports *might not* work with the 2016 version.

All report and invoice customization work has a **Life Time Warranty** and is guaranteed to work with all future versions of the same product line.

Limitations in Design

Crystal Reports by design does not allow sub-reports with a sub-report. The main report and the embedded sub-reports work in a cyclical manner on the data. This means that your main report will always have a loop, say '*all your time entries in Employee ID order*' and then a nested report can be run to calculate a summary of all the expenses of an Employee ID upon completing a listing of all the time entries on that Employee ID. Another example would be the *Project Account Details.rpt* report, which lists all the time and expenses for a Project ID and then launches another report to get a statement style summary. Advanced reports might require what is called ***Stored Procedures*** to be directly coded into a database to work around the nested-report limitation. While Crystal Reports does allow command prompts, such as a data range, yes/no response and numerical choices, these types of prompts are generally answered by a user and cannot always be automated in BillQuick or its add-ons, including BillQuick Agent.

BillQuick Report Filters

Filters are pre-written database questions (or queries). BillQuick provides many report filters in the Report Filters and Report Center screen. It is very important to understand what a *filter* is. Consider your database like a supermarket where you want to buy all items that are within 100 to 200 calories per serving range. You ask the manager for a list of all the products that meet this requirement and go home to review it. This is just like previewing a report; you have asked your database a question and it gave you back what you asked for. The most important thing to understand is that if you filter for products that are 100 to 200 calories per serving, then you won't know the products that do not meet this requirement. Therefore, if you filter a report by Time Entry Date of last week and an employee did not work during that week, then that employee does not exist for that report.

BillQuick allows you to build a record selection in Crystal Reports without having to know the code or database. The software is programmed to read the tables accessed by the report and then give you a predefined list of queries. This means filters are built into the code of the software, not the report. Advanced users, who would like to go beyond the standard filters, can use the Custom Query String to write a record selection manually. The option 'Append to (E)Query' must be checked to enable the custom filter and to add it to any existing filter built into the report. For instance, a WIP report will already filter for un-billed records. Using the Custom Query String will allow you to add onto this restriction manually.

Combining filters can get tricky and usually the 'OR' combination is never used; so be careful to review all check boxes if you are experiencing erratic behavior.

Report Customization in BillQuick

BillQuick comes with modification tools to change basic elements of a report like font size, color, text box contents, etc. and gives you the ability to suppress items on it. You can save the modified report or invoice for later use. You can also modify the nested reports. The editable elements have a large box around them instead of a field. You must click the 'Disable Drill Down' option to access these nested reports.

BillQuick uses Century Gothic 8 pt font on the invoices and most of the reports. If you want your memos to match them, change the memo font in the Global Settings screen.

Read the Overview section above to understand the potential database connection issues when migrating modified reports to a different version of BillQuick.

Location and Memorization of Reports

By default, BillQuick stores the reports and invoices in the installation directory, under the folders Reports and Invoices, respectively. In general, the reports are stored with the file extension .rpt and the invoices with .rpc. There is no difference in the formats except that we manually changed the extension. You can always associate .rpc files with Crystal Reports if you are designing them on your own. There are other oddities like .rpl and .rpr files, which integrate into different screens across BillQuick. BillQuick allows you to move the root folders Reports and Invoices to a network location to create a repository for a company. This becomes necessary when customizations come into play and the task of updating each user's machine becomes tedious. The folder locations can be set in the User Preferences or Global Settings screen in BillQuick.

BillQuick provides two ways of looking at reports in the Report Center screen—the regular view and the old Legacy View. The regular view takes all the report files and organizes them in a user-friendly way while the Legacy View shows the files as they exist in the folders. Reports and invoices can be placed only one folder deep. If you want to add a report to the regular view, use the Custom Report List screen (Reports menu) to point to the file and choose the appropriate folder. Make sure to tab to the next line to complete the entry.

You can memorize a report from Report Center by filling out the desired filters and clicking Memorize. The saved report shows up on the Memorized tab of the Report Center or under the Memorized Reports drop-down in the Reports menu.

WORKING WITH CRYSTAL REPORTS

All BillQuick reports and invoices are linked to the (OLE DB ADO) Access database that comes with the software. BillQuick is designed to update the Access database settings on the fly during the preview process.

To add more fields onto the existing report, we recommend using the Verify Database menu option and pointing it to your local copy of the BillQuick sample database (as explained later).

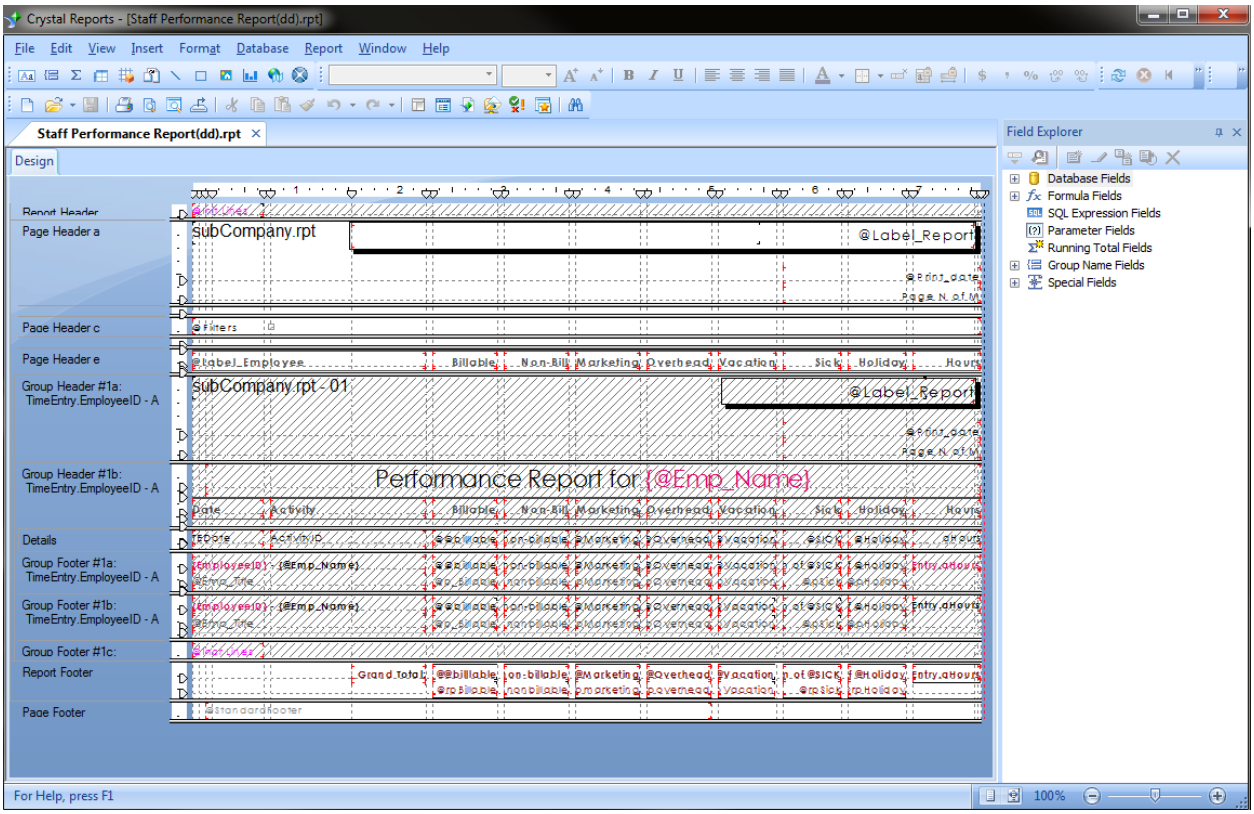
BillQuick ***does not*** support linking a secondary database in conjunction with the one used by it. The only way to access data of an external database is to create a Database View in BillQuick that connects to it. Then you must connect the report or invoice directly to your database instead of the sample database (as shown in step 4 below). If you use an SQL database, click the Back button instead at step 3 and look for 'Microsoft OLE DB Provider for SQL Server'.

Before you try to modify a report or invoice, you must understand that records are processed in a cyclic order based on your linking and unique records. For each unique record, every other record in the daisy chain duplicates. For instance, if a project time entry report has 10 time entries, you might try to sum the time entry hours, but if you sum the contract amount it will be added 10 times.

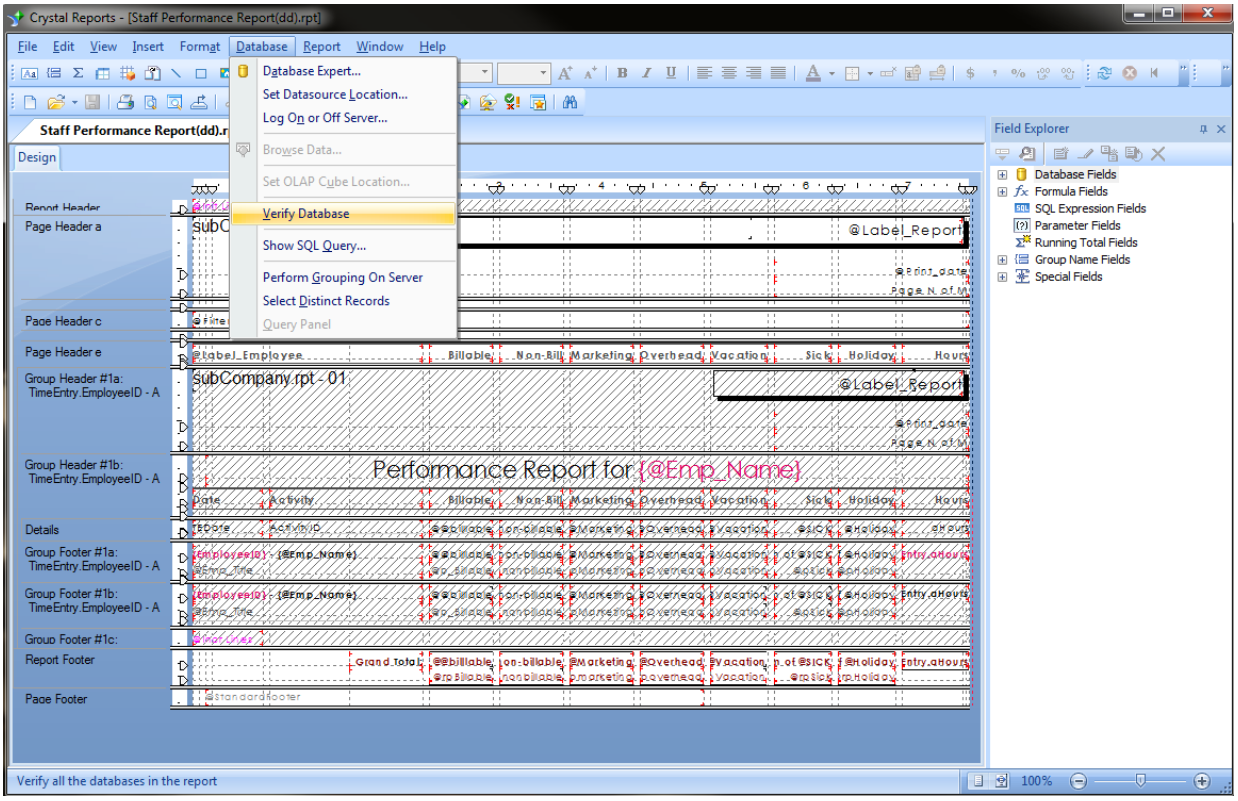
If you try to add tables, you must understand the different types of table joins and how they affect the report. In addition, you must realize that you cannot add any table anywhere; it must fit into the cyclical structure of record pulling you are trying to achieve. For instance, you cannot add an Expense Log table to a report with a Time Entry table. They both represent two separate cyclical data sets. You can only traverse through one accurately. This is why BillQuick has custom views like the TimeExpense View. Pulling data from a separate table not compatible with what the main report does can also be accomplished by using a sub-report.

By all means, using Crystal Reports requires training and practice. Make sure you back up all your reports and invoices before trying to modify them as you might break the file and want to replace it with the original.

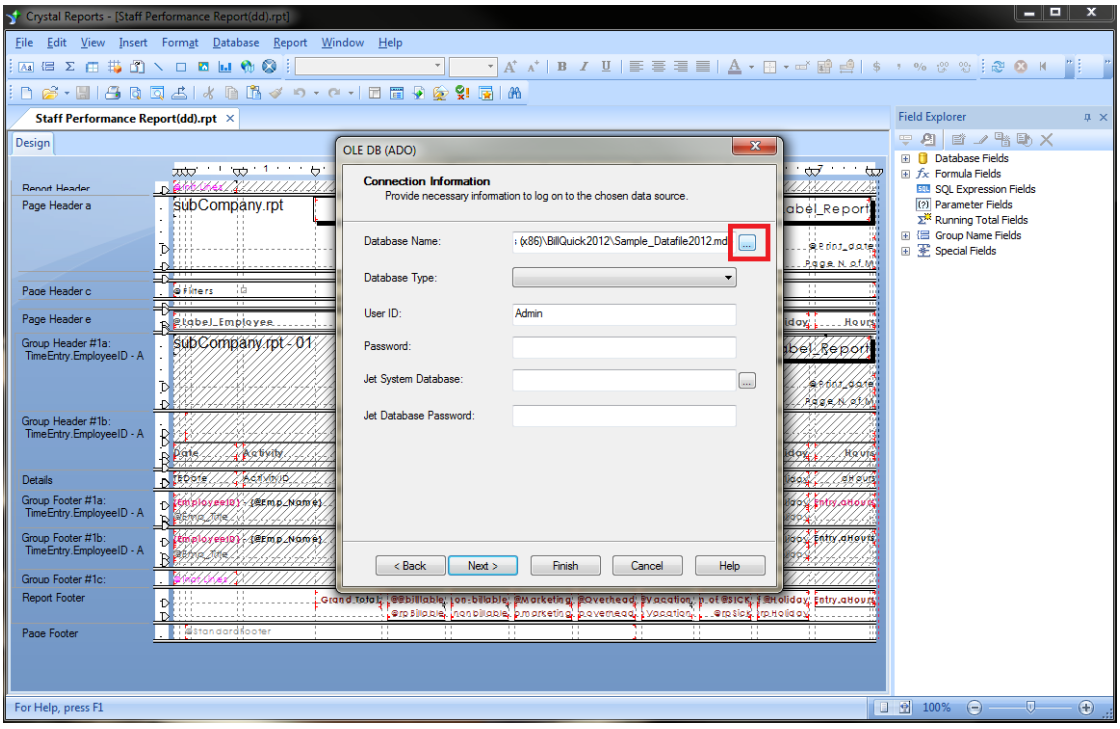
1. **Open File:** BillQuick stores the report and invoice files in rpt, rpc, rpl and rpr format. Crystal Reports can be forced to open all these types and then save them with the extension they were opened with so that BillQuick recognizes them properly.



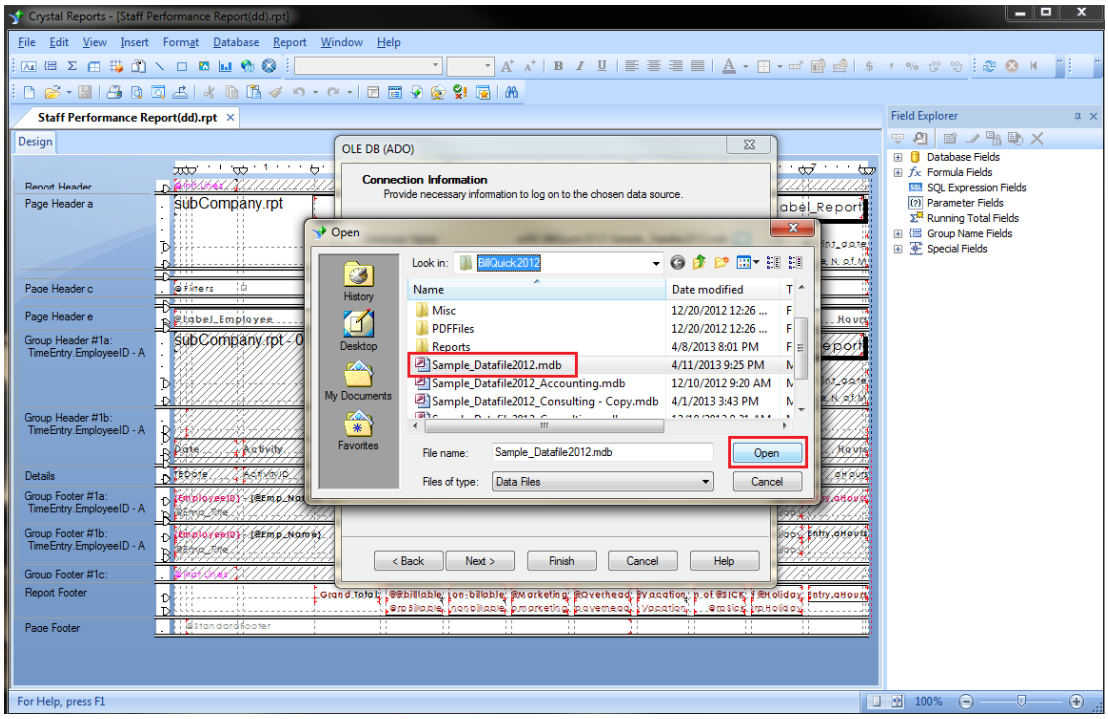
2. **Verify Database:**



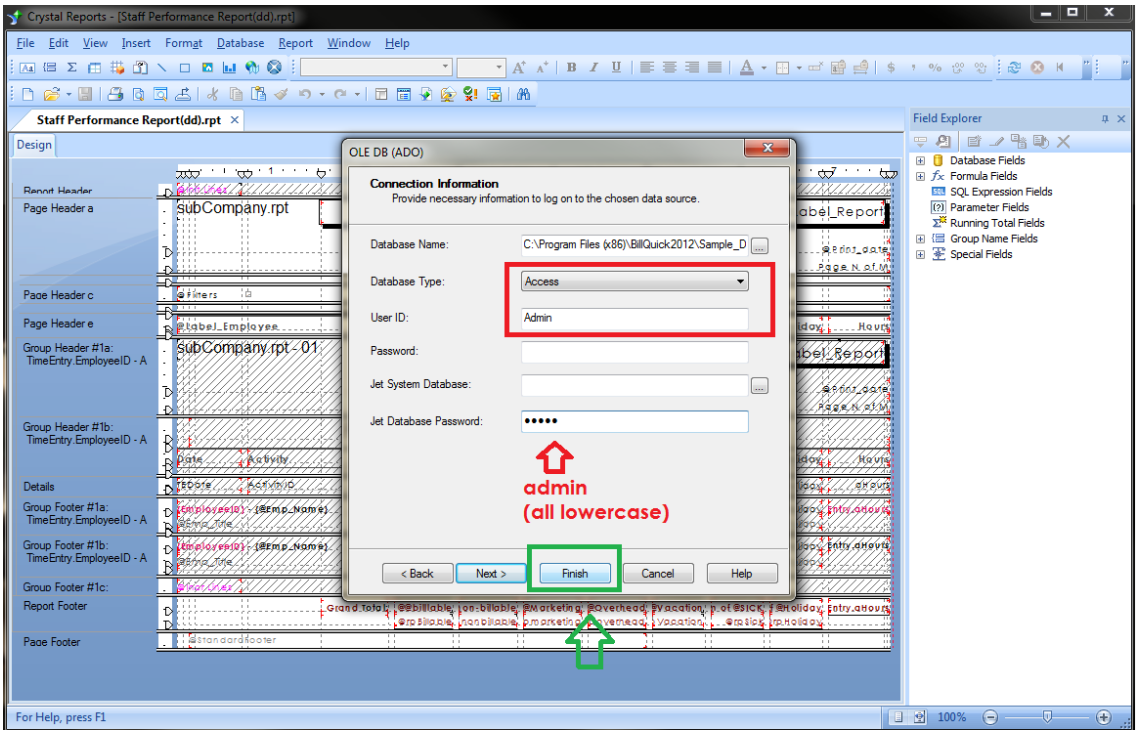
3. **Sample Database**: Find the BillQuick sample database.



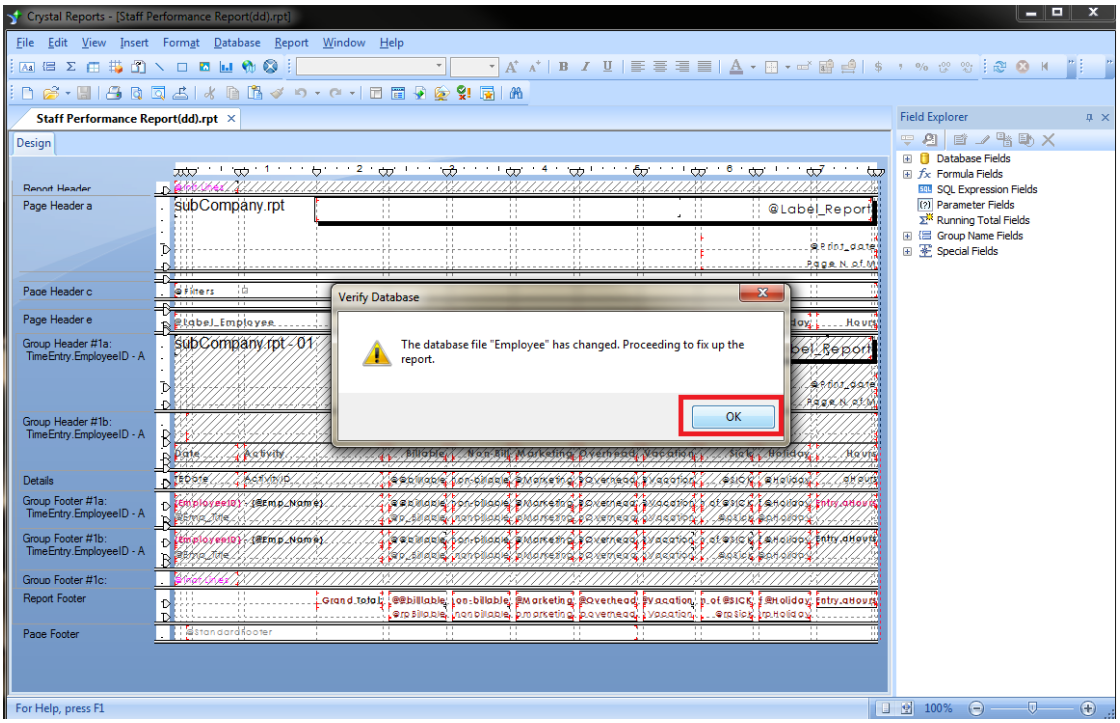
4. Select the sample database. It might be located at: C:\Program Files(x86)\BillQuick2017\Sample_Datafile2017.mdb



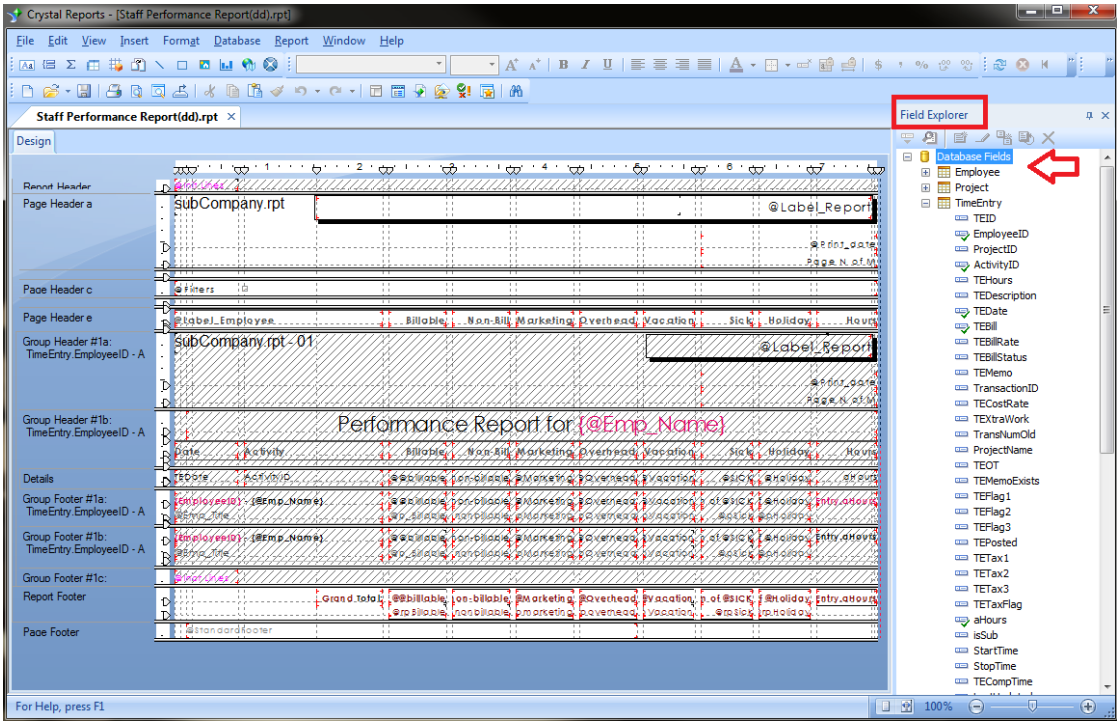
5. **Connection Information:** Fill in the required details.



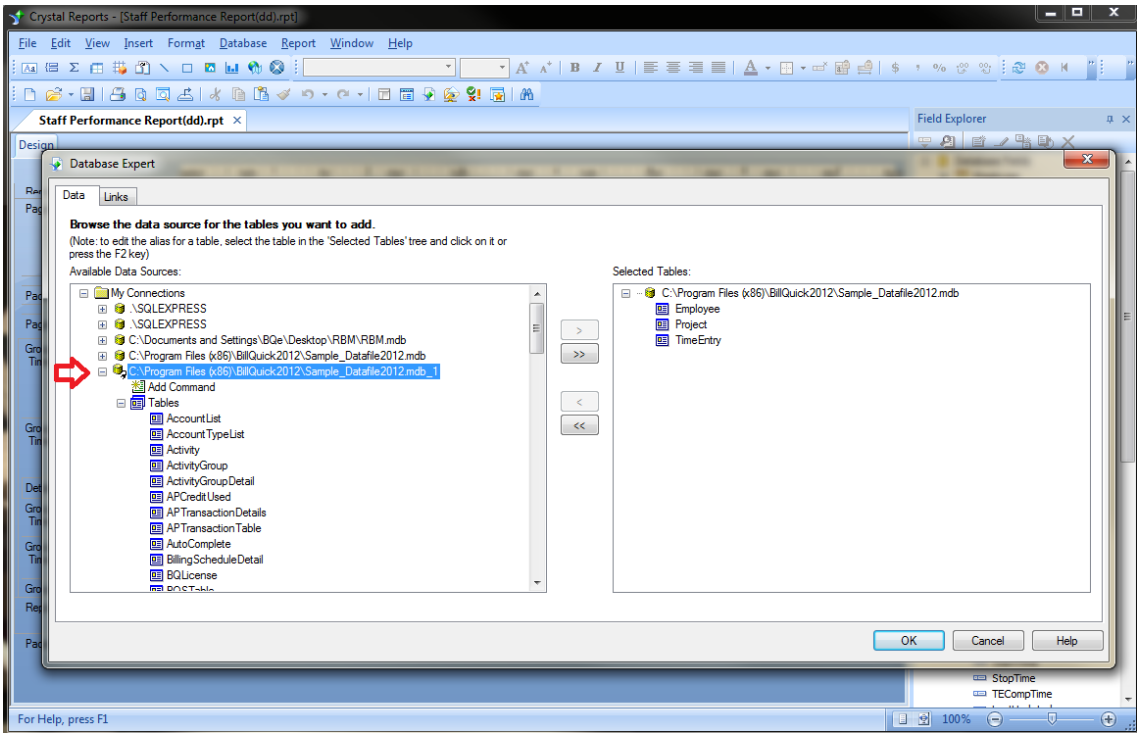
6. Click OK on all message prompts.



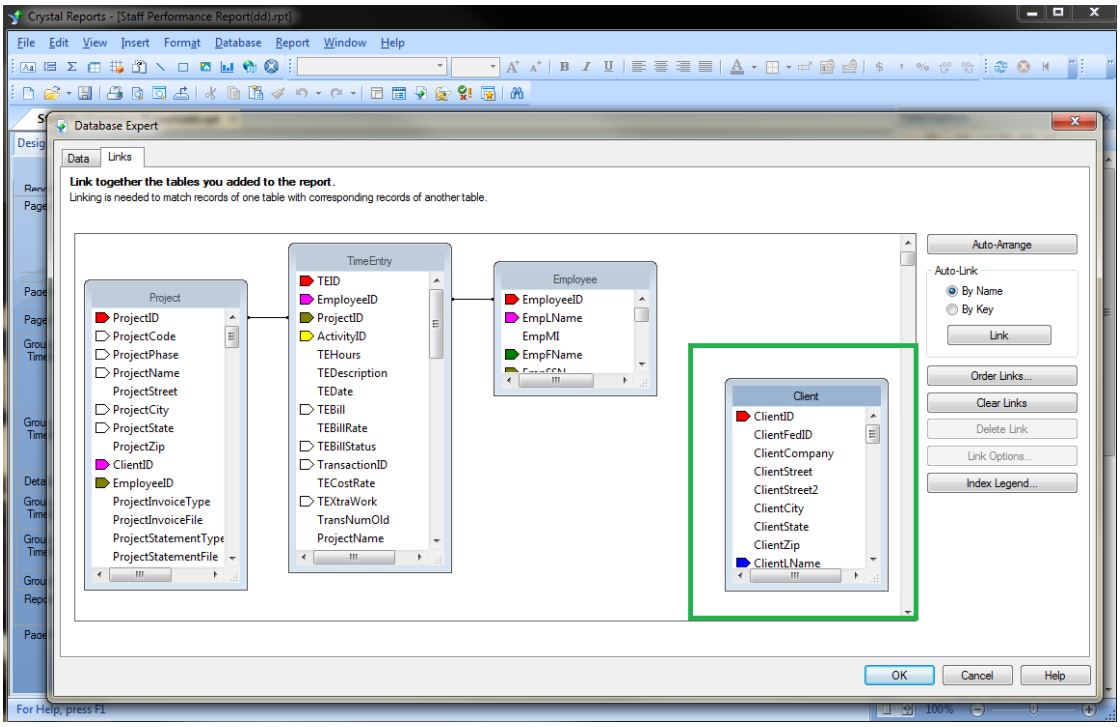
7. You can preview and add all available linked database fields (View menu >Print Preview).



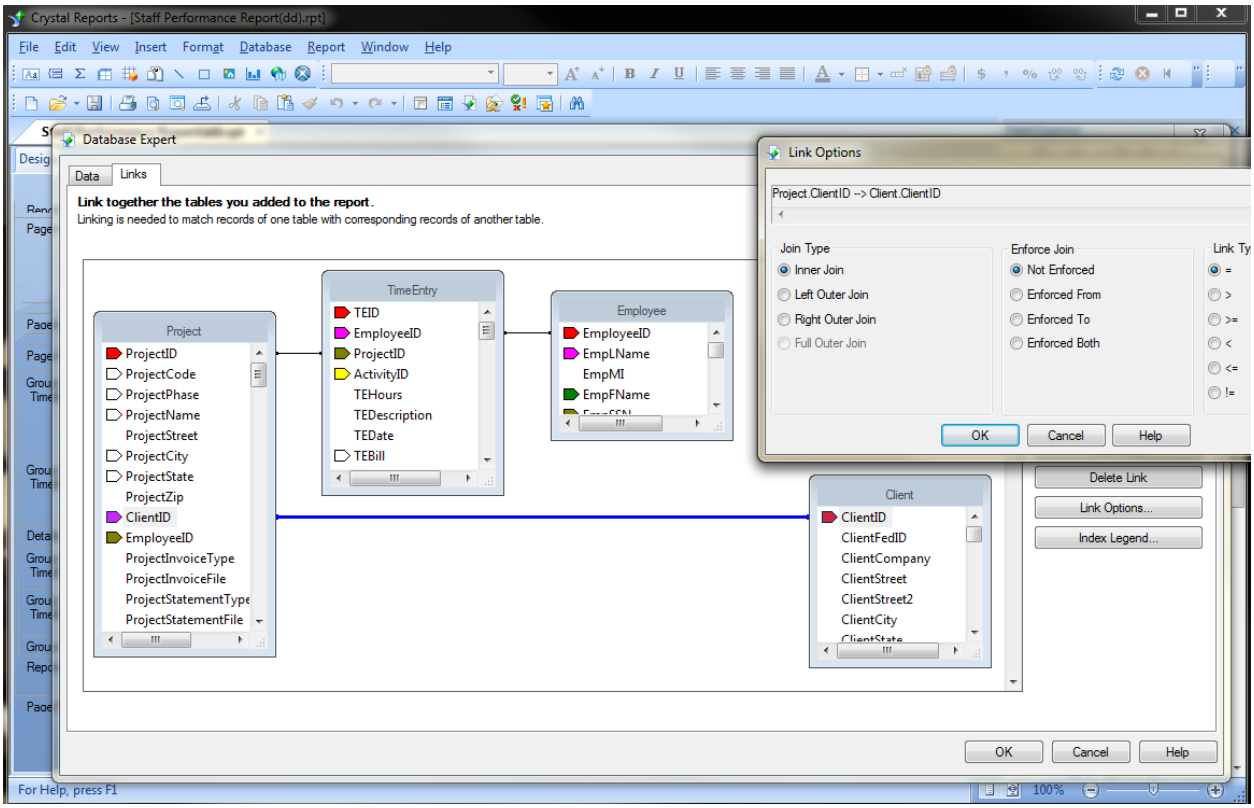
8. Now you can add tables (look for the correct database under My Connections) to the report.



E.g., click Client and use the right-arrow button to select it.



9. Move to the Links tab. To link Project.ClientID to Client.ClientID, TimeEntry is the cyclical table that will be reported on. There is only one connection between TimeEntry.Employee ID to Employee.EmployeeID but many between Project.ProjectID and TimeEntry.ProjectID. Likewise, there is only one connection with the new linked Client table.



For further advanced steps, we recommend the BQE Reports Team handle the Crystal Reports training.

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