SAP Crystal Solutions
SAP Crystal Reports and SAP Crystal Server

Step by Step guide: Connecting to Microsoft Access
With SAP Crystal Reports 2020

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Since Microsoft began including Access database management software in its Office suite in the early 1990s, Microsoft Access has been a prolific solution for personal relational database requirements. Software vendors have also made use of Access databases as part of many Windows-based desktop applications. SAP Crystal Reports is a natural solution for pixel-perfect reporting from Access databases.

Crystal Reports provides several methods for connecting to Microsoft Access. The method you choose, and the steps required to accomplish it, depend on the format of the Access database you wish to report from.

DETERMINING THE ACCESS DATABASE FORMAT

As various versions of Microsoft Access have been released over its lifetime, the core file format has undergone one significant change. While original Microsoft Access versions used the .MDB file format, Microsoft Access versions from the early to mid 2000s default to the .ACCDB format. The file format your Access database is contained in determines how you connect with Crystal Reports.

.MDB Format
SAP Crystal Reports connects to .MDB database files "natively" – no additional data drivers need to be installed and no special configuration needs to be done in advance. You may also connect to .MDB database files via an ODBC data source. Details on both options are provided later in this white paper.

.ACCDB Format
SAP Crystal Reports will not connect directly to an .ACCDB database file. And, no default support for .ACCDB format is provided via other "out of the box" connectivity methods (ODBC, OLE DB, and so forth). Two options exist if the Access database you wish to report from is in .ACCDB format:

* Open the database in a later version of Microsoft Access and export the database to .MDB format.

* Install the Microsoft Access Database Engine 2010 Redistributable driver. This will add an .ACCDB ODBC driver to your computer. You may then connect using an included OLE DB driver or create a standard ODBC data source directly from the .ACCDB file.

Exporting an .ACCDB File to .MDB Format
If you have a version of Microsoft Access from the mid-2000s installed on your computer, you may open the .ACCDB database and export to the .MDB file format. Depending on the version of Access you are running, steps may vary. For example, in Access 2016, begin by opening the desired .ACCDB database. Then, select File – Save As. Select either the Access 2000 or Access 2000-2003 .MDB format option.

Then click [Save As] , select the location where you wish to save the new database file, and give the database a filename. Access will save the database in .MDB format.
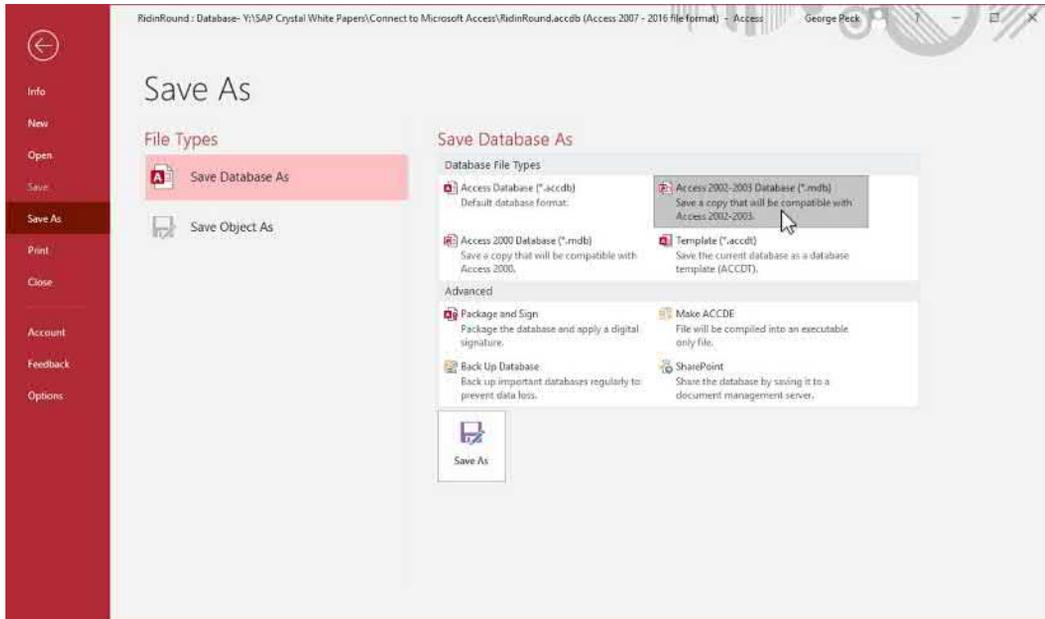
INSTALLING THE MICROSOFT ACCESS DATABASE ENGINE 2010 REDISTRIBUTABLE
It may not be practical (or possible) to convert .ACCDB files to .MDB format before reporting. For example, you may not have a copy of Microsoft Access at your disposal. Or, you may want to report from an .ACCDB file that is updated frequently and your reports need to always reflect the most current data state. For these occasions, you may download the Microsoft Access Database Engine 2010 Redistributable to facilitate connecting to the .ACCDB database via OLE DB or ODBC. Perform an Internet search for the driver and ensure you make use of a trusted source for the download (the Microsoft.com website is a good option). Install the product onto your computer.
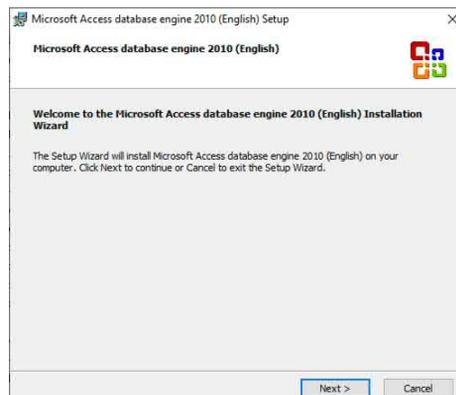
CAUTION: As SAP Crystal Reports 2020 only supports 64-bit database connections, make sure you down-load and install the 64-bit version of the Microsoft Access Database Engine 2010 Redistributable.

CONNECTING VIA OLE DB

OLE DB, an abbreviation for Object Linking and Embedding Database, is a Microsoft-defined standard that permits many data sources to connect to many client applications, regardless of vendor or purpose. OLE DB was developed after, and is sometimes considered as a replacement for, ODBC (discussed later in this white paper). As long as a data source and client application provide OLE DB drivers, they can connect to each other. Unlike ODBC, no pre-configuration or previously defined data source name needs to be created to connect. You may simply create a new report and select the desired OLE DB driver (this is covered in detail later in this white paper under Designing the Report).

CREATING AN ODBC DATA SOURCE

ODBC, an abbreviation for Open Database Connectivity, is a Microsoft-defined standard that permits many data sources to connect to many client applications, regardless of vendor or purpose. As long as a data source and client application provide ODBC drivers, they can connect to each other. This method requires that an identically-named ODBC Data Source Name (DSN) reside on each computer that the Crystal Report will run on (including a computer running SAP Crystal Server).

The ODBC Data Source Administrator is used to create ODBC Data Source Names. Depending on the version of Windows you are using, you may find it within Administrative Tools in Control Panel. Or, you may simply search for ODBC. No matter which method you choose, make sure you start the 64-bit version of the ODBC application (as mentioned earlier, Crystal Reports 2020 only supports 64-bit database connections).

1. Select either the User DSN or System DSN tab:
      a. User DSN will create a Data Source Name only visible to your Windows account.
      b. System DSN will create a Data Source Name visible to any user on your computer.
      Click [Add...]. The Create New Data Source dialog box will appear.

2. Select the desired Microsoft Access driver.
      a. If you wish to connect to an older .MDB format, select Microsoft Access Driver (*.mdb).
      b. If you installed the Microsoft Access Database Engine 2010 Redistributable and wish to connect to an .ACCDB database, select Microsoft Access Driver (*.mdb, *.accdb).
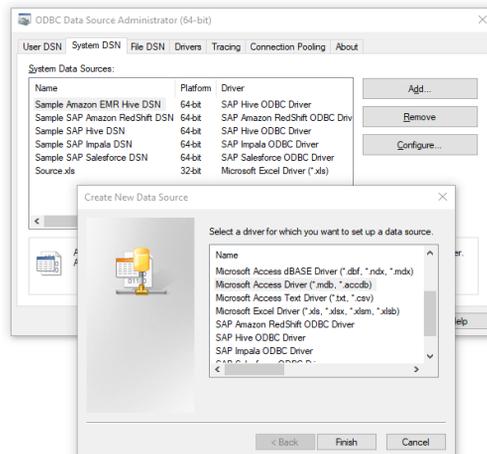
3. Click [Finish] . The ODBC Microsoft Access Setup dialog box will appear.

4. Type in a unique name for your new ODBC Data Source. Optionally, you may add a free-form description for the data source.

5. Click [Select...] to launch an open file dialog box. Navigate to the folder where the desired .mdb or .accdb file is located. Select it and click [OK] .
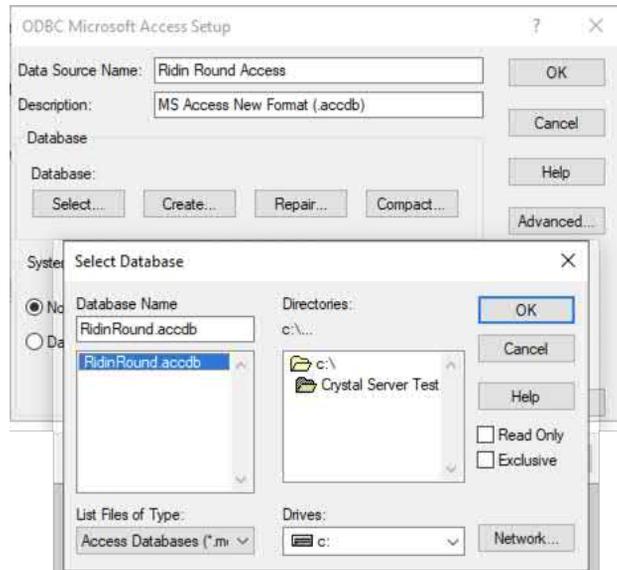
6. Click [OK] again to create the new ODBC Data Source.

NOTE: If you plan on using Crystal Reports based on this ODBC Data Source on other computers (perhaps you will publish to SAP Crystal Server), install any necessary driver and ensure that an identically-named ODBC Data Source exists on those computers as well.

DESIGNING THE REPORT

Start SAP Crystal Reports and create a new report (using the Blank Report option or a Report Wizard).

Connecting to an .MDB File Directly

1. Within the Create New Connection portion of the Database Expert, expand the Access/Excel (DAO) category. The Access/Excel (DAO) dialog box will open.

2. Click [...] and navigate to the location of the desired .MDB database file. Select it.

3. Choose Access from the Database Type drop down. Click [Finish] .
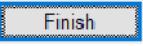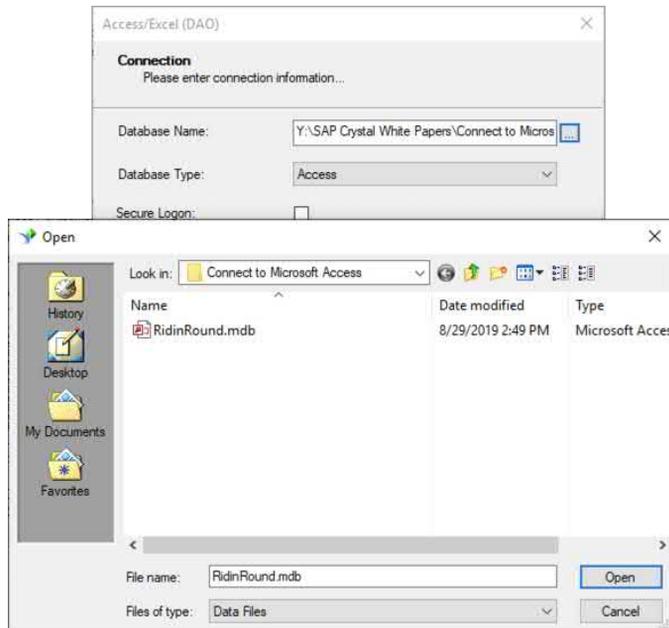
4. The database you selected to will now appear in the Database Expert within the Access/Excel (DAO) category. Next to the database click the plus sign to expand tables, views, stored procedures, and so forth.
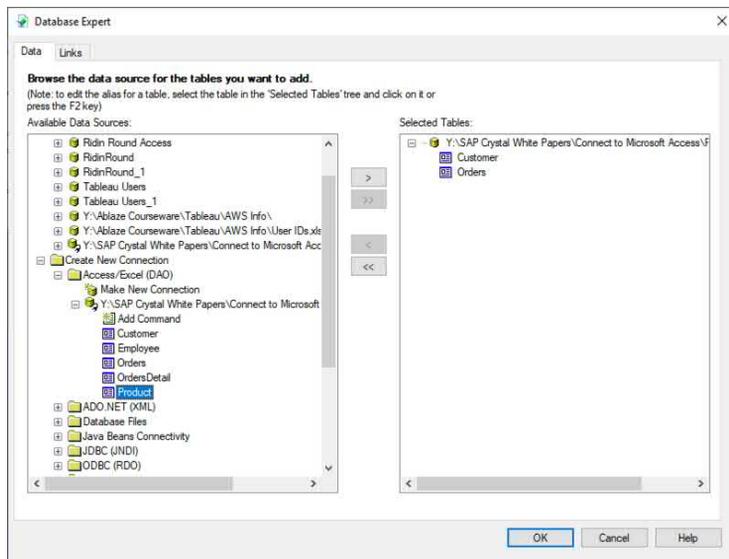
USING AN OLE DB PROVIDER

1. Within the Create New Connection portion of the Database Expert, expand the OLE DB (ADO) category. The OLE DB (ADO) dialog box will open.

2. Select the Microsoft Office 12.0 Access Database Engine option. Click [Next >] .
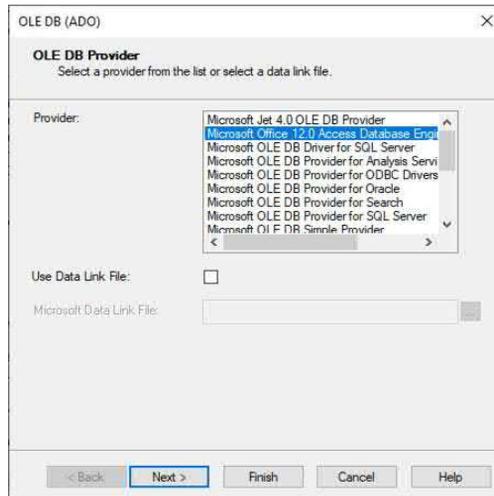
3. Choose Access from the Office Database Type drop down.

4. Click [...] and navigate to the location of the desired .ACCDB database file. Select it.

NOTE: Because both new .ACCDB and older .MDB file formats are supported via OLE DB, you may also select an older .MDB file using this OLE DB method.

5. Unless the selected database is protected with an embedded user ID and password, you may clear all remaining fields in the dialog box and click [Finish] .
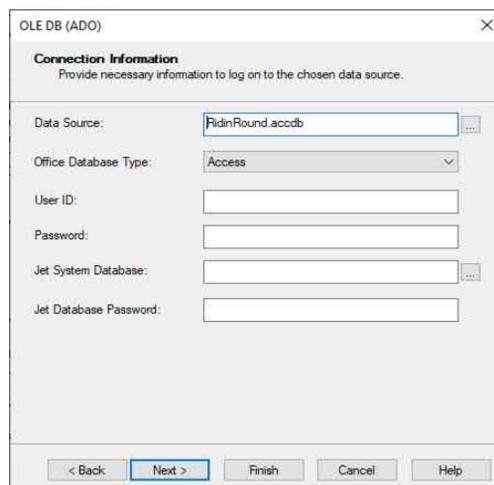
6. The database you selected will now appear in the Database Expert within the OLE DB (ADO) category. Next to the database click the plus sign to expand tables, views, stored procedures, and so forth.
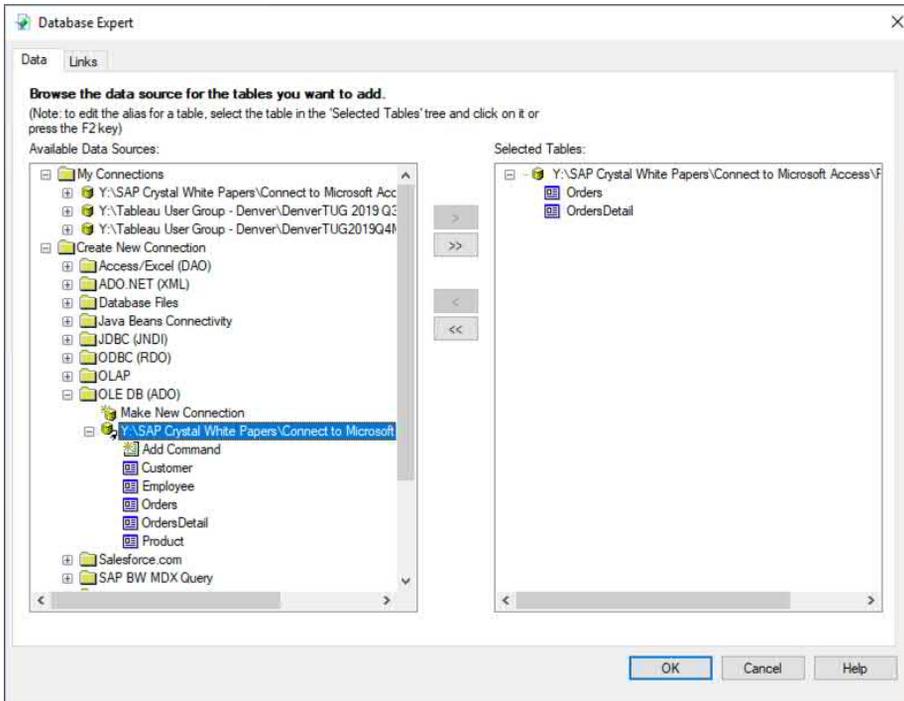
CONNECTING TO AN ODBC DATA SOURCE

1. Within the Create New Connection portion of the Database Expert, expand the ODBC (RDO) category. The ODBC (RDO) dialog box will open.

2. Select the desired ODBC Data Source. Click [Finish].
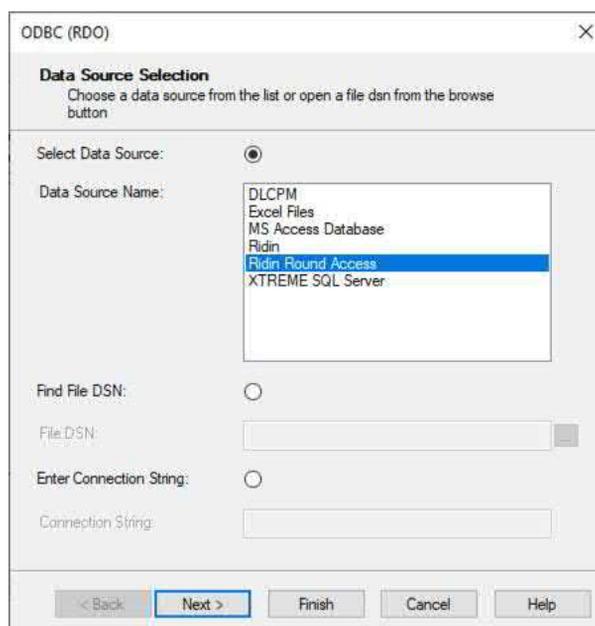
3. The database you selected to will now appear in the Database Expert within the ODBC (RDO) category. Next to the database click the plus sign to expand tables, views, stored procedures, and so forth.
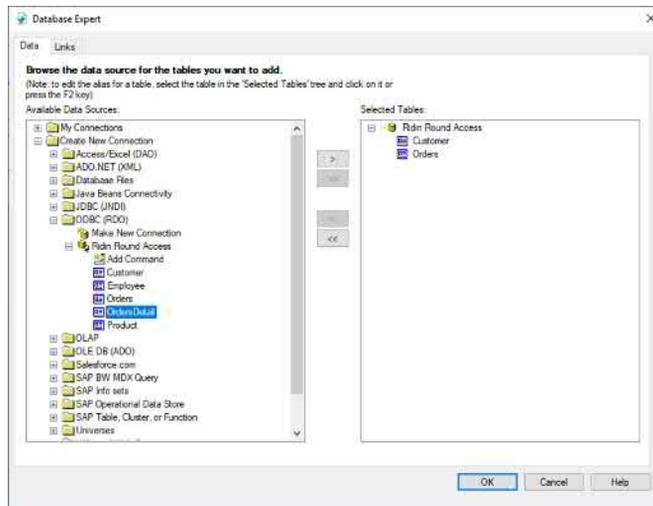
You may now add and join database objects to the report. The Connect to a Data Source guide on the SAP Crystal Guides page discusses adding and joining database items in more detail.

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