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For contact information for our worldwide locations, see

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## Overview

Welcome to Ontrack® PowerControls™, the granular recovery software that saves time, money, and resources when restoring Microsoft® SQL Server data.

With Ontrack PowerControls, you can:

- Restore tables from native SQL BAK files or offline MDF and LDF in seconds or minutes without restoring the entire database
- Preview table contents before restoring table
- Restore from backup or storage tier snapshot directly

Ontrack PowerControls supports SQL 2005 and later and can read MDF, LDF, NDF, and BAK files from a variety of data sources, such as a local or shared drive, an external hard drive or even a storage tier snapshot from a SAN environment.

## About the Free Trial

After installation, Ontrack PowerControls operates as a Free Trial by default until a license file is applied. The Free Trial of Ontrack PowerControls is limited in functionality and time-limited to 30 days of use.

With the Free Trial, you can:

- Open sources
- Open targets

If you would like to have full functionality, or learn more about the purchasing options and product information for Ontrack PowerControls, visit our website at <http://www.ontrack.com>.

## Data Security

The Ontrack PowerControls user requires:

- Read access to any SQL 2005 and later offline database files or backup files to be opened as a source.
- Administrator access to any SQL Server where the data is to be restored.

## Chapter 1: Looking at the Interface

The Ontrack PowerControls main window is divided into the two Source panes (Source Tree View and Source List) above the two Target panes (Target Tree View and Target List).

The screenshot displays the Ontrack PowerControls main window. The interface is divided into two main sections: Source and Target. The Source section is at the top, and the Target section is at the bottom. Both sections contain a tree view on the left and a data list on the right. Red numbered callouts (1-11) point to various UI elements: 1. Menu Bar, 2. Toolbar, 3. Source Location, 4. Source Tree View, 5. Source List, 6. Source List Status Bar, 7. Target Location, 8. Target Tree View, 9. Target List, 10. Target List Status Bar, 11. Main Window Status Bar.

**Source: U:\SQL Database\2008 R2\Works2008R2\_Data.mdf**

BillOfMaterialsID	ProductAssemblyID	ComponentID	StartDate	EndDate	UnitMeasureCode	BOMLevel	ModifiedDate
1	807	1	4/4/2004 12:...	<NULL>	EA	2	3/21/2004 12:...
2	782	995	4/4/2004 12:...	<NULL>	EA	1	3/21/2004 12:...
3	<NULL>	989	4/4/2004 12:...	<NULL>	EA	0	3/21/2004 12:...
4	<NULL>	785	4/4/2004 12:...	<NULL>	EA	0	3/21/2004 12:...
5	<NULL>	775	4/4/2004 12:...	<NULL>	EA	0	3/21/2004 12:...
6	950	322	4/4/2004 12:...	<NULL>	EA	2	3/21/2004 12:...
7	984	949	4/4/2004 12:...	<NULL>	EA	1	3/21/2004 12:...
8	775	951	4/4/2004 12:...	<NULL>	EA	1	3/21/2004 12:...
9	822	325	4/4/2004 12:...	<NULL>	EA	2	3/21/2004 12:...
10	944	327	4/4/2004 12:...	<NULL>	EA	2	3/21/2004 12:...
11	748	327	6/4/2004 12:...	<NULL>	EA	2	5/21/2004 12:...

1 of 1000 items selected | List displays the first 1000 rows and 1024 columns.

**Target: K021SQLEXPRESS**

BillOfMaterialsID	ProductAssemblyID	ComponentID	StartDate	EndDate	UnitMeasureCode	BOMLevel	ModifiedDate
1	807	1	4/4/2004 12:...	<NULL>	EA	2	3/21/2004 12:...
2	782	995	4/4/2004 12:...	<NULL>	EA	1	3/21/2004 12:...
3	<NULL>	989	4/4/2004 12:...	<NULL>	EA	0	3/21/2004 12:...
4	<NULL>	785	4/4/2004 12:...	<NULL>	EA	0	3/21/2004 12:...
5	<NULL>	775	4/4/2004 12:...	<NULL>	EA	0	3/21/2004 12:...
6	950	322	4/4/2004 12:...	<NULL>	EA	2	3/21/2004 12:...
7	984	949	4/4/2004 12:...	<NULL>	EA	1	3/21/2004 12:...
8	775	951	4/4/2004 12:...	<NULL>	EA	1	3/21/2004 12:...
9	822	325	4/4/2004 12:...	<NULL>	EA	2	3/21/2004 12:...
10	944	327	4/4/2004 12:...	<NULL>	EA	2	3/21/2004 12:...
11	748	327	6/4/2004 12:...	<NULL>	EA	2	5/21/2004 12:...

1 of 1000 items selected | List displays the first 1000 rows and 1024 columns.

Production.BillOfMaterials has been copied to the clipboard.

Key items:

1. Menu Bar
2. Toolbar
3. Source Location
4. Source Tree View
5. Source List
6. Source List Status Bar
7. Target Location
8. Target Tree View
9. Target List
10. Target List Status Bar
11. Main Window Status Bar

## Source and Target Panes

The Source panes display the contents of the source MDF, NDF, and LDF files, or the first full backup in the source BAK file. The Source Tree View displays the selected source database in a hierarchical view. The Source List displays the columns of the tables selected in the Source Tree View.

**Note:** *Unsupported columns also appear, but the data in the cells may appear as <UNSUPPORTED>*

The Target panes act as a container for the restored objects on the target server. The Target Tree View contains the Microsoft SQL Server tables that you copy, drag, or add through the Data Wizard. The Target List pane displays the columns of the tables selected in the Target Tree View.

When you select a table in either the Source or Target Tree View, the following appear in the corresponding List:

- Up to the first 1,024 columns (each column displays up to 300 characters).
- Up to the first 1,000 rows.

**Note:** *A notice appears in the corresponding List's status bar when the selected table exceeds these amounts.*

Any functions that can be performed on a source or target are available on the menu bar, the toolbar, or the shortcut menus. For more information, see "[Restoring Microsoft SQL Server Tables](#)"

## Changing the Appearance of the Main Window

You can change the view in the Ontrack PowerControls window by:

- Viewing or hiding the Toolbar and Status Bar
- Resizing panes separated by a split bar
- Resizing columns in the Source and Target Lists
- Refreshing the screen

### Viewing or Hiding the Toolbar and Status Bar

The toolbar and status bar appear by default in the main window, but you can easily hide them.

#### To hide or view the toolbar or status bar

- On the **View** menu, select or clear **Toolbar** or **Status Bar**. A check mark indicates that the bar is shown.

### Resizing Panes Separated by a Split Bar

You can use a split bar (the horizontal or vertical double line that separates two panes) to increase the area within one pane while simultaneously decreasing the area within the adjacent pane.

## To resize panes separated by a split bar

1. Position the pointer over a split bar between the two panes on either the vertical or horizontal split bar.

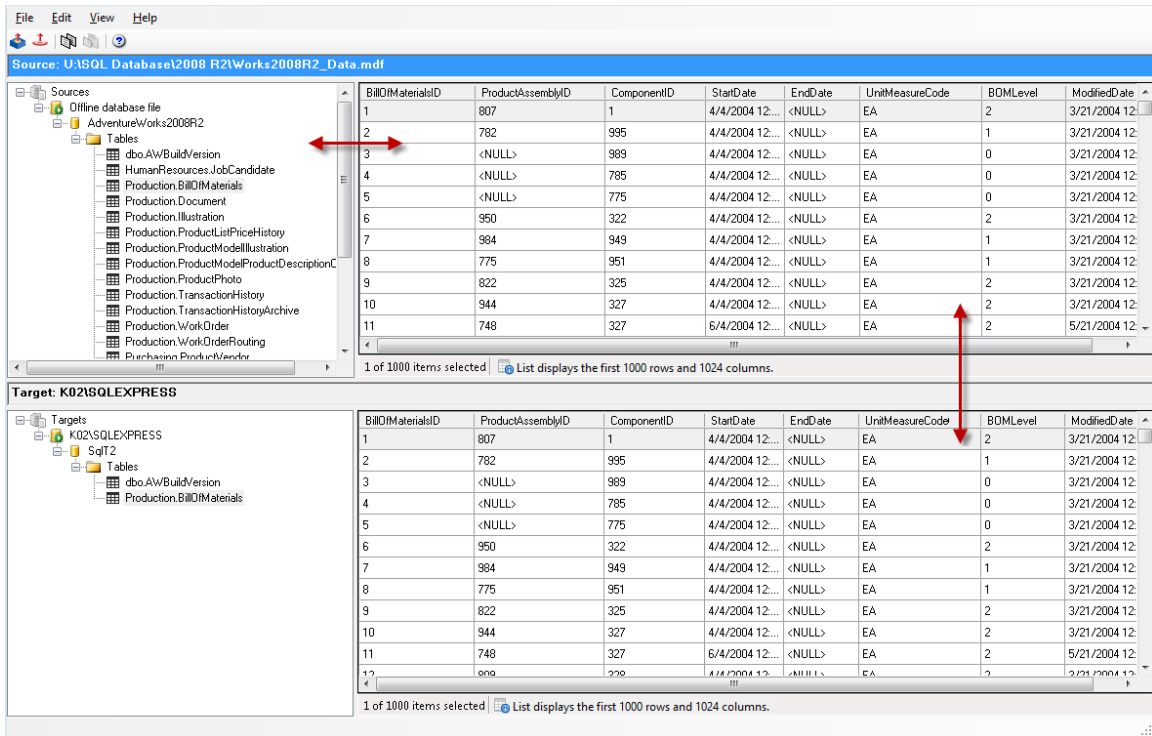


Figure 1-1: Resizing panes with the double-headed arrow

2. When the pointer becomes a double-headed arrow, drag it to resize the pane.

## Resizing Columns in the Source and Target Lists

You can change the width of the columns in the Source and Target Lists.

### To resize columns

1. Place the pointer between the columns in either the Source or Target Lists.
2. When the pointer becomes a double-headed arrow, drag it to resize the column width.

**Note:** You can double-click the double-headed arrow to automatically adjust the column width.

## Refreshing the Screen

You may want to refresh the screen occasionally when you are connected to a live target server, as the information on the server may update.

### To refresh the screen

- Do one of the following:
  - On the **View** menu, select **Refresh**.
  - Press the **F5** key.

## Setting Preferences

Use Preferences to set defaults for recurrent operations, such as running the Data Wizard when you start the application.

### To change preference settings

1. On the **Edit** menu, select **Preferences**.
2. Select or clear the following check boxes, as needed:
  - **Run Data Wizard on startup:** If selected, the Data Wizard starts every time you open Ontrack PowerControls.
  - **Show warning when no log files specified:** If selected, a warning message appears when opening a file if an LDF file path has not been specified.
  - **Show referential integrity warning:** If selected, a warning message appears when copying tables with foreign keys.
3. In the **Temporary File Path** box, accept the default location for the .IDX and .DAT files or, if the files require more hard drive space, specify a new location by clicking **Browse (...)**.




## Chapter 2: Restoring Microsoft SQL Server Tables

You can restore a Microsoft SQL Server table by doing the following:


### A. Select the source MDF, LDF, and NDF file paths or the source BAK file path.

**Important:** Verify that the log files and database files were created in the same backup. If your source database contains an NDF file, it must be included with the MDF file.

1. Open the Source Path Selection page of the SQL Data Wizard by doing one of the following:
  - On the toolbar, click **Open Source** .
  - On the **File** menu, select **Open Source**.
  - Press **Ctrl+S**.
  - Drag the files to open onto the Source Tree view of the main window.
2. In the **Source Type** drop-down list, select either **Files** or **Folder**.
  - If you selected *Files*, do one of the following:
    - Click **Add** and use the Open dialog box to browse for the source MDF file, NDF files, LDF files, or BAK files.
    - Open Windows Explorer and drag the source files from their location onto the Source Files box.
  - **Note:** Multiple files can be added to the Source Files box and are listed in the order they were added; however, only a single database can be opened. Please select either Microsoft SQL Database files (\*.MDF, \*.NDF, \*.LDF) or Microsoft SQL backup files, not a combination of both. If you want to remove files from the **Source Files** box, select the file and click **Remove**.
  - If you selected *Folder*, do one of the following:
    - Enter the location of the SQL data folder.
    - Select the path of a previously selected folder.
    - Open Windows Explorer and drag the source folder from its location onto the Source Folder drop-down list
    - Click **Browse** and use the Browse For Folder dialog box to locate the Microsoft SQL source folder.
3. Click **Finish**.

**Note:** When opening Transparent Data Encryption databases, after clicking Finish an "Add Transparent Data Encryption Database requirements" window appears. Add a path to Transparent Data Encryption database key and provide Transparent Data Encryption key password.

## B. Connect to the Microsoft SQL Server you are using as the target for your restored data.


1. Open the Target Server Path Selection page of the SQL Data Wizard by doing one of the following:
  - On the toolbar, click **Open Target** .
  - On the **File** menu, select **Open Target**.
  - Press **Ctrl+T**.
2. In the **SQL Server Name** list, do one of the following:
  - Enter the name of the Microsoft SQL Server you are using as the target.
  - Use the drop-down arrow to select a previously used target.
  - *If you do not know exact name of the Microsoft SQL Server, click the drop-down arrow, then select **<Browse for more...>**. On the Browse for Servers dialog box, choose a target scope of either **Local Servers** or **Network Servers**, then select the SQL Server instance you want to connect to and click **OK**.*

***Note:** Similar to Microsoft SQL Server Management Studio, the number of instances listed in the Network Servers tab can vary between queries, for example, when network load prevents server response. Also, the following are not displayed:*


    - Hidden instances
    - Servers not running SQL Server Browser service
    - Servers with blocked UDP port (1434)
  - *(Optional) To specify a port number (if selected instance is installed on a port other than default 1433), type the server name, followed by a comma and the port number (value from 1 to 65535).*  
Example: `server_name\instance_name,1234`.
3. In the **Authentication** group, select one of the following:
  - **Use Windows Authentication** to use Windows credentials of the currently logged-in user to access the web service.
  - **Use SQL Server Authentication** to use Microsoft SQL credentials, then enter the Username and Password of the user.
4. In the **Database** group, do one of the following:
  - Select **Connect to Single Database** and enter the database you are using as the target or use the drop-down arrow to select a database on the SQL Server you are using as the target.
  - Select **Connect to Server** to connect to the SQL Server you are using as the target and view all its available databases in the Target Tree View pane.
5. Click **Finish**.

## C. Copy and paste (or drag) a table from a SQL database backup (source) into a live SQL database (target)

### To copy a table from the Source Tree View

1. In the Source Tree View, select the table to copy.
2. Do one of the following:
  - Click the Copy icon  on the toolbar.
  - On the **Edit** menu, select **Copy**.
  - Press **Ctrl+C** (copy).

### To paste a table to the Target Tree View

1. In the Target Tree View, select a Tables node.
2. Do one of the following:
  - Click the **Paste** icon  on the toolbar.
  - On the **Edit** menu, click **Paste**.
  - Press **Ctrl+V** (paste).

### To drag a table to the Target Tree View

- Drag a table from the Source Tree View into a Tables node in the Target Tree View. Dragging achieves the same results as copying and pasting.

## Using the Data Wizard

The Ontrack PowerControls DataWizard guides you through Steps A and B of "[Restoring Microsoft SQL Server Tables](#)".

### To open the Data Wizard

- On the **File** menu, click **Use Wizard**.

## Opening the Source Database from the Command Line

In addition to using the Data Wizard, you can open the source databases with the command line.

### To open the source database with the command line

1. Open a command prompt window.
2. Type the location of the Ontrack PowerControls installation files, followed by **PC.SQL.exe**. Enclose both together within double quotes.
3. Append this with the source file(s) and the temporary file path (optional) as parameters.
  - *Each source file name* must be prefixed with the keyword **-sourcefile** and enclosed within double quotes. The prefix and the file name must be separated with a space.

- Each source folder name must be prefixed with the keyword **-sourcefolder** and enclosed within double quotes. The prefix and the folder name must be separated with a space.
- The temporary file path must be prefixed with **-t** keyword and enclosed within double quotes. The prefix and the temporary file path name must:
  - Be separated with a space
  - Not end with a backslash.

**Note:** To automatically open the specified source database and view it in the source tree view, type **-o**.

4. Press **Enter**.

- If the "Show wizard on startup" box is cleared on the Data Wizard, Ontrack PowerControls opens the Data Wizard at the Source Path Selection page with the command line content displayed.

### Sample Command Lines

Sample Command	Result
"C:[application location]PC.SQL.exe" -sourcefile "U:\SQL Database\BAK\2008R2\AdventureWorks2008R2.bak"	Opens the Data Wizard with the source file AdventureWorks2008R2.bak pre-populated.
"C:[application location]PC.SQL.exe" -sourcefile "U:\SQL Database\BAK\2008R2\AdventureWorks2008R2.bak" -t "C:\Users\administrator\AppData\Local\Temp\PC"	Opens the Data Wizard with the source file AdventureWorks2008R2.bak and temporary path C:\Users\administrator\AppData\Local\Temp\PC pre-populated.
"C:[application location]PC.SQL.exe" -sourcefolder "U:\SQL Database\BAK\2008R2" -t "C:\Users\administrator\AppData\Local\Temp\PC" -o	Opens the 2008R2 source folder and automatically displays it in the source tree view.
"C:[application location]PC.SQL.exe" -sourcefile "U:\SQL Database\2008 R2\AdventureWorks2008R2_Data.mdf" -sourcefile "U:\SQL Database\2008 R2\AdventureWorks2008R2_log.LDF" -o	Opens the source AdventureWorks2008R2 from MDF and LDF and automatically displays it in the source tree view.
"C:[application location]PC.SQL.exe -sourcefile "U:\SQLBACKUPS\Stripe1.bak" -sourcefile "U:\SQLBACKUPS\Stripe2.bak" -sourcefile "U:\SQLBACKUPS\Stripe3.bak" -o	Opens multiple backup files that belong to the same backup set.

## Viewing Copy Progress

Each time you attempt to restore objects to the Target Tree View, Copy Progress displays the following information:

- Source, Source Path, Target, and Target Path
- Time of the start of the copy operation
- Number of tables to be processed
- Warnings and errors, if any
- Number of rows processed
- Time the copy operation completed

#### To print Copy Progress Data as a report

- Click **Print** for a report of the Copy Progress information.

#### To save Copy Progress Data as a report

- Click **Save** for a text file of the Copy Progress report.

## Exporting Source Tables into CSV Format

In the Source pane, you can export a single table from an opened MDF, LDF and NDF or BAK file backups to a CSV file.

#### To export a table from the Source Tree View

1. In the Source Tree View, select the table to export.
2. Do one of the following:
  - Click the **Export** icon on the toolbar.
  - On the **Edit** menu, select **Export**.
  - Press **Ctrl+P** (export).
  - Open the context menu on a single table and select **Export**.
3. Choose the path to save the CSV file with the exported data from the SQL table.
4. In the Export Progress window, you can:
  - Print Export Progress Data as a report by clicking **Print**.
  - Save Export Progress Data as a report by clicking **Save**.
  - Finish Export by clicking **Close**.

## Chapter 3: Troubleshooting

If you have issues not addressed in the user guide or the online Help, call our Technical Support group (1-952-937-2121). When reporting an issue, please include any information that might help us diagnose the problem and have the following:

- The version of Ontrack PowerControls you are using (on the Help menu, click About)
- The versions of Windows operating systems that you are running
- The circumstances and sequence of steps that led to the problem
- The text of the error messages (if any appeared).
- A list of other Windows-based programs that you were running when the error occurred