

## Metrix System Administration Guide

Version 2019.2

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EFI Metrix | *EFI Metrix System Administration Guide*

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## Introduction

EFI Metrix is an industry-leading job planning engine that transforms big data into actionable data in the most proven end-to-end integrated solution with a holistic view into manufacturing. With over 1,200 Metrix users in 25 countries and 12 years of continuous, aggressive development, Metrix is recognized as the de facto industry standard for dynamic, intelligent production planning, and automated imposition.

### The Complete Planning and Imposition Solution

The EFI Metrix solution stores your presses, finishing equipment, stock, folds, users' logins and permissions, along with your manufacturing standards. Centralizing this information ensures uniformity, efficiency, and ultimately error-free planning and imposition across your entire organization. The EFI Metrix solution automatically and dynamically determines how many press sheets you need, the optimum layout for each press sheet, and even figures out the most cost-effective printing method, press, and sheet size.

## About This Guide

Metrix comes in four major versions: **Standalone**, **Commercial-Suite-Integrated (Monarch)**, **Fiery-Integrated, Packaging-Suite-Integrated (Radius)**, and **Midmarket-Suite-Integrated (Pace)**. This guide covers the first two only. If you have one of the other versions of this product, please see the documentation for your version of the product.

## Contact Information

### EFI Support

<b>Web Site:</b>	<a href="https://customer.efi.com/support">https://customer.efi.com/support</a>
<b>US Phone:</b>	+1 972.638.7490
<b>UK Phone</b>	+44 (0) 800.783.2737
<b>EU Phone</b>	+49.2102.745.4500
<b>E-Mail:</b>	<a href="mailto:dmi.support@efi.com">dmi.support@efi.com</a>

Regular Service Desk hours are 9:00 AM to 5:30 PM Pacific Time, Monday – Friday. Outside of these hours, you may leave a voice mail message and an on-call support representative will be paged. Response time is based on the severity of the issue.

**Note** For problems involving infrastructure (e.g., computers, networks, operating systems, backup software, printers, third-party software, etc.), contact the appropriate vendor. EFI cannot support these types of issues.

### EFI Professional Services

<b>US Phone:</b>	651.365.5321
<b>US Fax:</b>	651.365.5334
<b>E-Mail:</b>	metrix.support@efi.com

**Note** EFI Professional Services can help you perform EFI software installations, upgrades, and updates. This group can also help you implement, customize, and optimize your EFI software plus offer a range of training options.

## Maintaining the Metrix Database

The Metrix database should be cleared of old projects at regular intervals. The interval length depends on the number and types of projects in your database.

There are no hard and fast rules about how many projects your Metrix database can hold – but you should keep in mind the guidelines below, as Metrix will stop working if the database grows too large.

The space required for each project is dependent upon the number of elements (products, layouts, signatures, marks, press mark files, etc.) within each project and the plant resources. The Metrix database server application has a minimum memory requirement of 4 GB; the maximum is limited by the amount of memory available on the server.

If your database folder grows to over 500MB, you should make it a regular practice to cleanly shutdown the database and restart it so that the database application can run its database cleanup routines. Periodically deleting the oldest projects from the database is helpful in keeping the database size small and responsiveness efficient. If you need to store more projects for longer periods of time, you can migrate the database to a Microsoft SQL Server Express or Standard. See “Unlocking a Locked Project or the Database” on page 7.

As you add projects to Metrix, they are stored in the database.

- For Windows, the Metrix database is stored in the **Data** folder at **C:\ProgramData\EFI\Metrix\Data**
- For Mac, the **Data** folder is in the Metrix application folder at **/Applications/EFI/Metrix/Data**
- For multi-user installations, this folder is on the **Data Server** computer.

**Notes** During the implementation phase, this practice allows you to revert to an earlier version in the event you discover that your setup is less than optimal, or you’ve entered data erroneously.

The **Data** folder’s name cannot be changed. Therefore, we recommend copying the **Data** folder into another folder with a relevant name.

**Important!** We recommend daily backups of your Metrix Data folder.

## Backing up the Metrix Database

The Metrix database performs its routine maintenance and housekeeping when it is shut down and restarted. Therefore, it is of the utmost importance that you perform regular shut downs and start-ups of the Metrix database. Performing regular backups is the best way to maintain your database. Below are instructions for shutting down Metrix as part of proper maintenance.

**Notes** Please note that the shutdown and start-up procedure is an integral part of the process, and that failure to perform regular database shutdowns and start-ups may result in data loss.

Also, make sure that all Metrix clients are shut down before proceeding.

### Metrix Standalone: Windows/Mac OS

1. Shut down Metrix.
2. Copy the **Data** folder to your backup location and folder.

### Metrix Multi-User with Data Server: Windows/Mac OS

1. Shut down Metrix.
2. On the Data Server computer, in the Data Server application window, click **Shutdown**.

**Important** This is the only method you should use for shutting down the Data Server. If the Data Server is ever shut down abruptly, some data loss may occur.

3. On the Data Server computer, copy the **Data** folder to your backup location and folder.

**Notes** If the Data Server was shut down cleanly, the **Data** folder backup should contain two files, not four. If your backup **Data** folder contains a **metrix.lck** and a **metrix.log** file, then your backup was incorrectly done. You should start the database server again, and then use the **Shutdown** button in the window.

When shutting down the Metrix Data Server, the data that was temporarily stored in the **metrix.log** file is merged into the **metrix.script** file, and all data is compacted. This maintenance is crucial to the health of your Metrix database, and you should perform it weekly.

## Restoring the Metrix Database

### Local Machine Licensed Metrix: Windows/Mac OS

1. Ensure that Metrix is shut down.
2. Copy the Data folder from your backup location and folder to the Metrix application folder.
  - On Windows, the **Data** folder is located at **C:\ProgramData\EFI\Metrix\Data**.
  - On Mac, the **Data** folder is located at **/Applications/EFI/Metrix/Data**.
  - For multi-user installations, this folder will be stored in the **Data Server** computer.

### Network Licensed Metrix with Data Server: Windows/Mac OS

1. Ensure that all Metrix clients are shut down.
2. Shutdown the Data Server using the **Shutdown** button in the application.
3. Copy the **Data** folder from your backup location and folder to the **Metrix** folder on the Data Server computer.

**Note** If you want to save the data inside the existing **Data** folder, be sure to back it up before restoring it to another **Data** folder.

## Metrix User Preferences

The Metrix database centralizes all the Equipment, Resources (including Marks), Standards, and Projects. However, some aspects of the application are local. They are:

### User Preferences

The User Preferences are local to each client and are accessed from the **Settings > User Preferences** menu. The following User Preferences, all on the **Import Project** tab, are particularly important in a multi-user environment:

- **Hot Folder:** Make this folder accessible to all Metrix operators and all MIS operators. This is where a JDF or MXML file is stored for processing by Metrix.
- **Copy to Shared Folder:** Make sure this folder is accessible to all Metrix operators. Once Metrix receives a JDF or MXML file in the **Hot Folder**, it is copied to this location.
- **Substitute Metrix Standard:** If your plant is making use of Metrix Standards, make sure this preference is set to **True** on every client. This preference applies not only to imported projects, but also to projects created within Metrix.

### User Preferences file

All Metrix User Preferences and Export settings are stored in the **Metrix 2019.2.Properties** file located in your User folder. See the *Metrix User Guide* for complete details on Metrix User Preferences.

## Export window

Each client's **Export** window remembers the last-used settings. Operators can also **Save Settings**, to ensure uniformity and consistency.

## Logins

### Users and User Roles

If you are starting Metrix for the first time, or if personal Users and User Roles have not yet been assigned, select one of the following default logins:

Login	Password
Administrator	a
Guest	guest
Senior	senior
Junior	junior

**Note** See the *Metrix Setup Guide* for information on how to set up Users and User Roles.

## Unlocking a Locked Project or the Database

**Notes** Metrix locks all projects in use so they may not be edited by more than one client at a time.

If a user is editing the database and Metrix quits suddenly, the entire database will be locked and no further editing can occur until it is unlocked.

### *To unlock one or more projects, or the database itself*

1. Quit Metrix (Local Machine License version) or your client (Network License version).
2. From the **Settings** menu, select **Stale Locks...**

**Note** The Stale Locks window displays a list of locked projects – any projects that are currently open or were open when Metrix (or the Data Server) quit abruptly.

3. Select the project(s) that you want to unlock, click **Unlock**, and then **Close**.

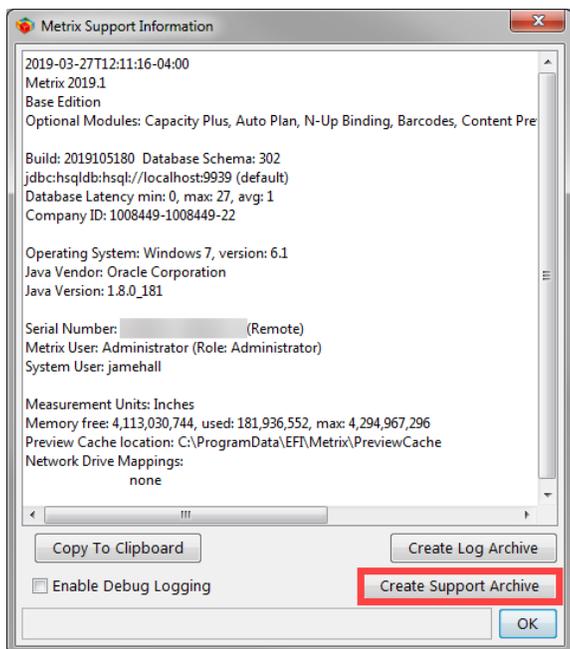
## Submitting Files to EFI Support

If an issue occurs with Metrix and you need to submit files to EFI Support, please do the following:

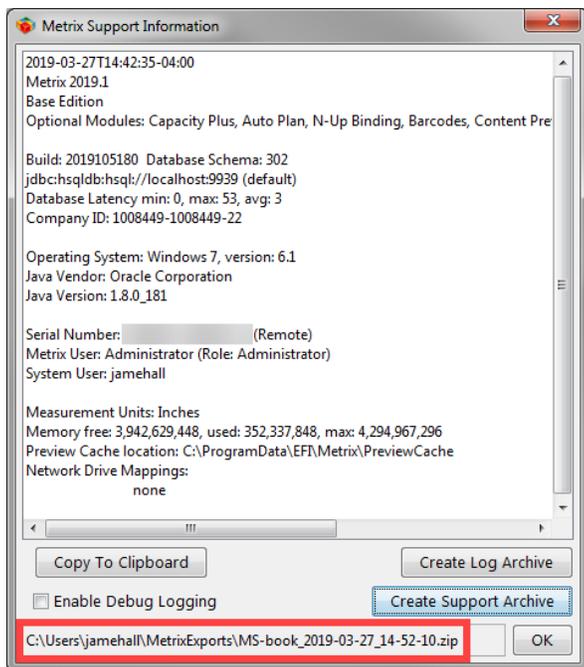
1. Create a **Support Archive** zip file.
2. Submit your information to EFI Support.

### (1) Create a support archive zip file.

- Click **Help > Support Information...** and select **Create Support Archive** to create a zip file that contains the open project, database, file marks, logs from the last two days, content files, **metrix.properties** file, and **Metrix.2019.2.properties** file.



- If **EFI Support** requests log files to diagnose a problem:
  - Click **Enable Debug Logging** and then click **OK** to exit the Metrix Support Information dialog.
  - Repeat the steps which caused the issue.
  - Reopen the Metrix Support Information dialog and then click **Create Support Archive**.
- Select **Create Log Archive** to create a zip file of the contents in the **Metrix > Logs** folder.
- Choose **Copy to Clipboard** to copy the contents of the Metrix Support Information dialog.
- Retrieve the zip file from the location indicated in the **Location** box.



## (2) Submit your database information to EFI Support

- Name the archive with the case number and your company name, in this format:
  - CaseNumber\_CustomerName.zip
- Contact [Metrix Support](#) and they will give you a location where you can upload your zip file.
- Send an email to [metrix.support@efi.com](mailto:metrix.support@efi.com) to let them know you've uploaded your **Support Archive** zip file.

## Connecting Metrix to Microsoft SQL Server

Some customers choose to store their Metrix data in a SQL Server database (either the Standard or Express Editions). Contact your reseller for information on how to connect to MS-SQL, or if you purchased directly from EFI and your company has an Annual Service Agreement, we can supply you with documentation and support files that will assist you in migrating to MS-SQL.

Contact: [metrix.support@efi.com](mailto:metrix.support@efi.com)

**Note** EFI will communicate what we've done in testing and Quality Assurance to work with MS-SQL Server, but we do not support the MS-SQL Server itself.

## Backing up a SQL Server Database

For those customers who choose to store their Metrix data on a MS-SQL Server database, follow the steps in this section to execute the recommended backup procedure.

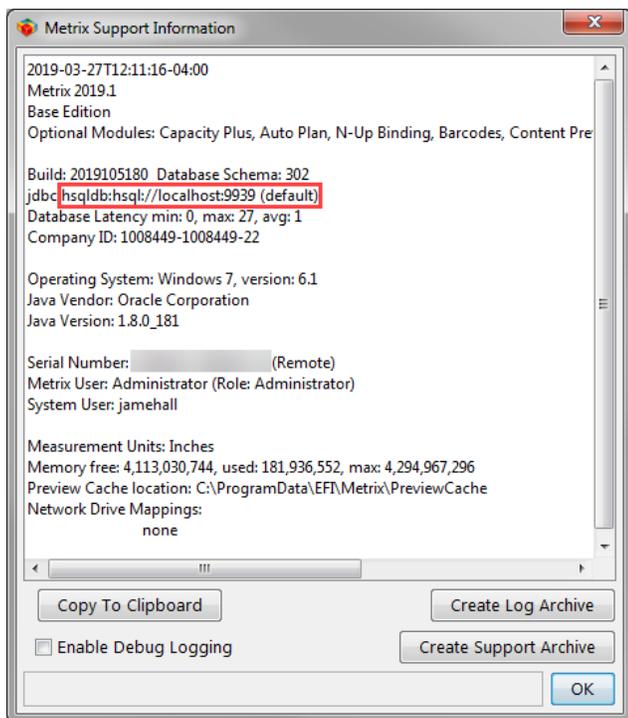
### Backing up your Metrix data on SQL Server Standard

The following steps are specific to SQL Server Standard. If you are using SQL Server Express, see the instructions specific for that version on page [14](#).

1. Verify your SQL Server connection string.
2. Back up and restore the Database.
3. Create a new SQL Server login.
4. Edit the **metrix.properties** file.
5. Relaunch Metrix.

#### (1) Verify your SQL Server connection string

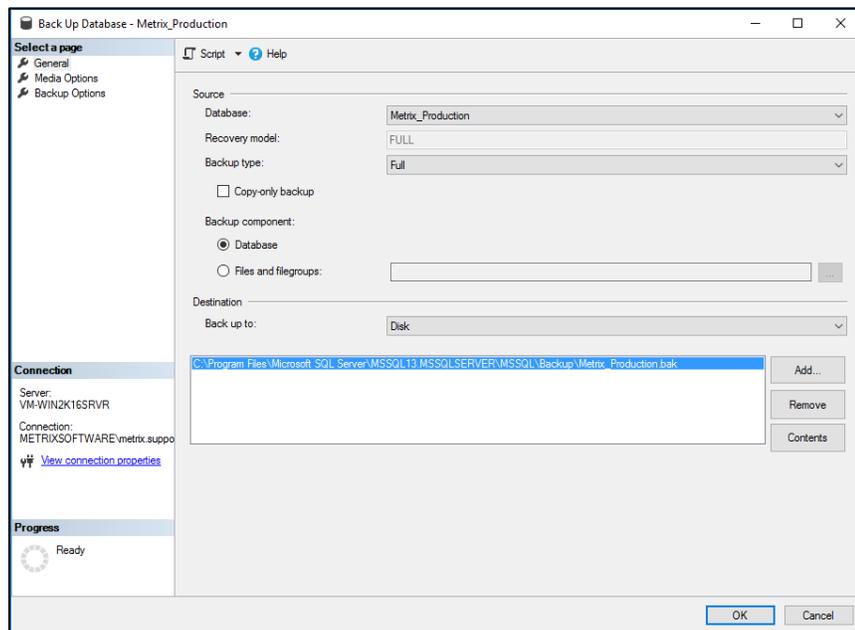
1. Launch Metrix, select **Help > Support Information...** to view the original SQL Server connection string, and make a note of it.



2. Click **OK**, and then exit Metrix.

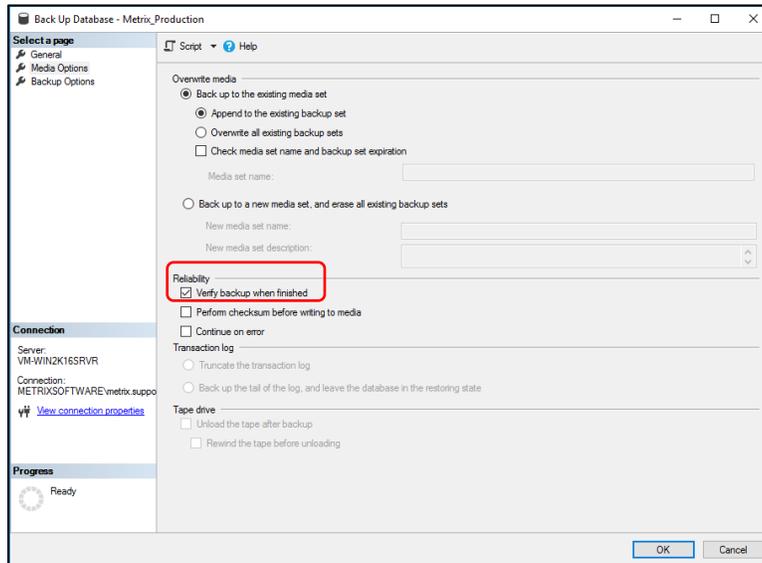
**(2) Back-up and restore the Database**

1. Launch SQL Server Management Studio.
2. Right-click the appropriate database, and then select **Tasks > Back Up...**
3. In the Back Up Database window:
  - Select the appropriate database and backup file.

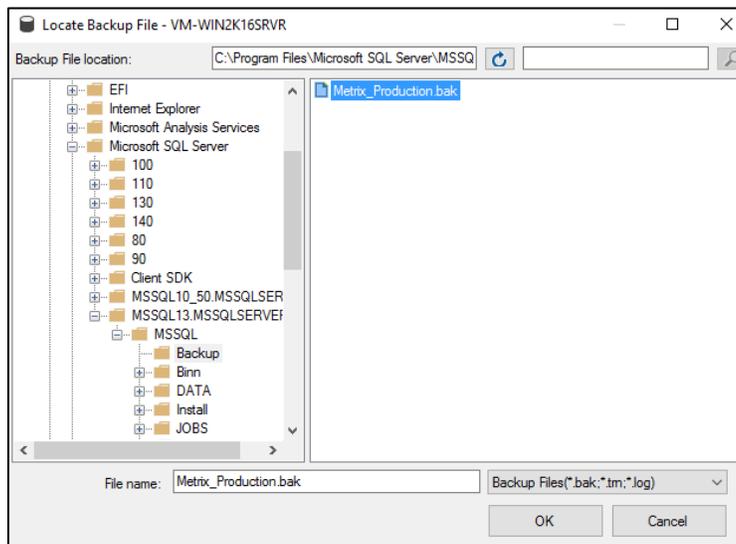


- Select **Full** as the Backup type from the drop-down list.

- Select **Media Options** on the left side of the window.
- Under Reliability, select **Verify backup when finished**, and then click **OK**.

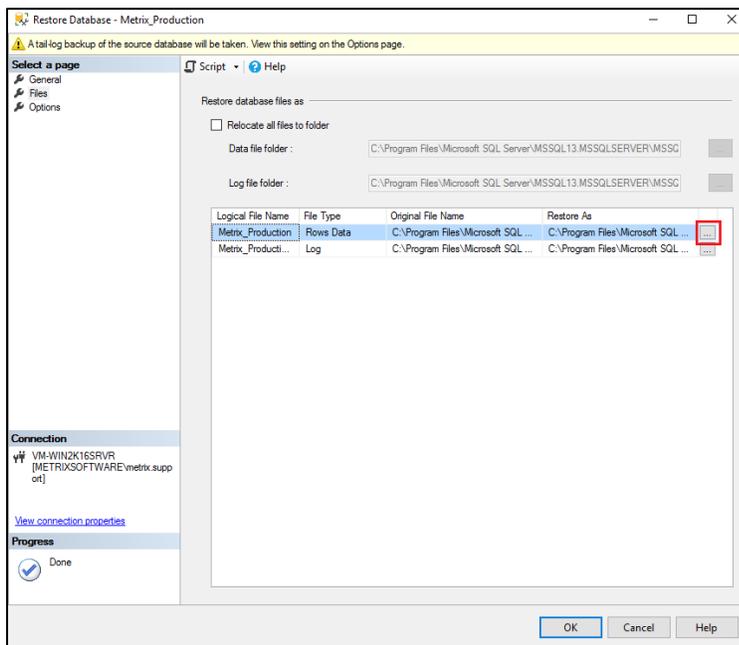


4. Click **OK** when the following message opens: “The backup of database ‘(Name of database)’ completed successfully.”
5. In the Object Explorer, right-click **Databases > Restore Database...**
6. In the Restore Database window:
  - Select **Device** under Source.
  - Click ... to the right of the **Device** field.
7. In the Select backup devices window, click **Add**.
8. In the Locate Backup File window, select the appropriate .bak file, and then click **OK**.



9. In the Select backup devices window, confirm that the Backup media file is correct, and then click **OK**.
10. In the Restore Database window:

- Select the appropriate **Backup sets to restore** from the list.
- In the **Database** field, enter the appropriate database.
- Click the **Files** node in the left corner of the window.
- On the right side of the appropriate file name, click ...

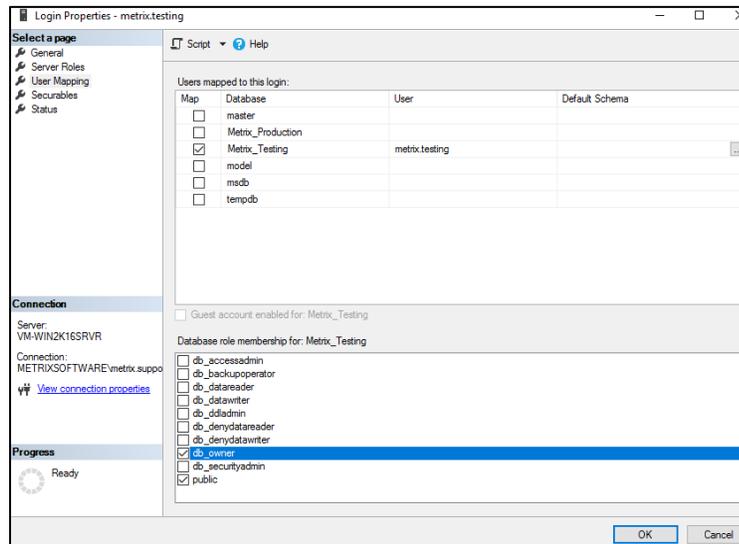


11. In the Locate Database Files window, enter the appropriate file name, and then click **OK**.
12. Repeat steps 9-10 for the Log File Type as well.
13. In the Restore Database window:
  - Select the Options node.
  - Under Restore options, select **Overwrite the existing database**.
  - Click **OK**.
  - Click **OK** when the “Database ‘(Your database name)’ restored successfully” message opens.

### (3) Create a new SQL Server login

1. In the Object Explorer:
  - Select the node corresponding to your database name.
  - Right-click and select **Logins > New Login...**
2. In the Login – New window:
  - Enter a **Login name** in the field.
  - Select **SQL Server authentication**.
  - Enter a password.
  - Deselect **Enforce password policy**.
  - Select the User Mapping node.
  - Under Users mapped to this login, select the name of the database that you previously created.

- Under Database role membership for (Your database name), select the appropriate option, and then click **OK**.



3. Exit SQL Server Management Studio.

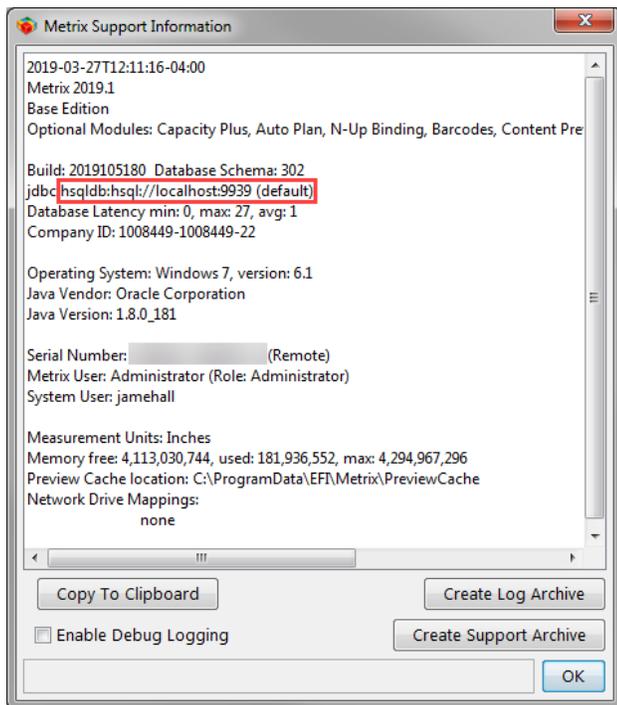
#### (4) Edit the metrix.properties file

1. Using a text editor, open the **metrix.properties** file.
2. Edit the following lines in the file by substituting the appropriate information for the bracketed text:
  - Edit the jdbc.URL line. An example is below:
    - Original SQL Server connection string:  
jdbc.URL=jdbc:sqlserver://<hostname original static IP address>:1433;DatabaseName=<name of original database>responseBuffering=adaptive;
    - Updated SQL Server connection string:  
jdbc.URL=jdbc:sqlserver://<hostname new static IP address>1433;DatabaseName=<name of new database>responseBuffering=adaptive;
  - Edit the Jdbc.user property. An example is below:
    - Original SQL Server connection string:  
jdbc.user=<original SQL Server username>
    - Updated SQL Server connection string:  
jdbc.user=<new SQL Server username>
  - Edit the jdbc.password. An example is below:
    - Original SQL Server connection string:  
jdbc.password=<original SQL Server password>
    - Updated SQL Server connection string:  
jdbc.password=<new SQL Server password>
3. Save and exit the text editor.

#### (5) Relaunch Metrix

1. Launch Metrix, select **Help > Support Information...** to view the modified SQL Server connection string.

2. Ensure that the correct **DatabaseName** appears in the Metrix Support Information window, and then click **OK**.



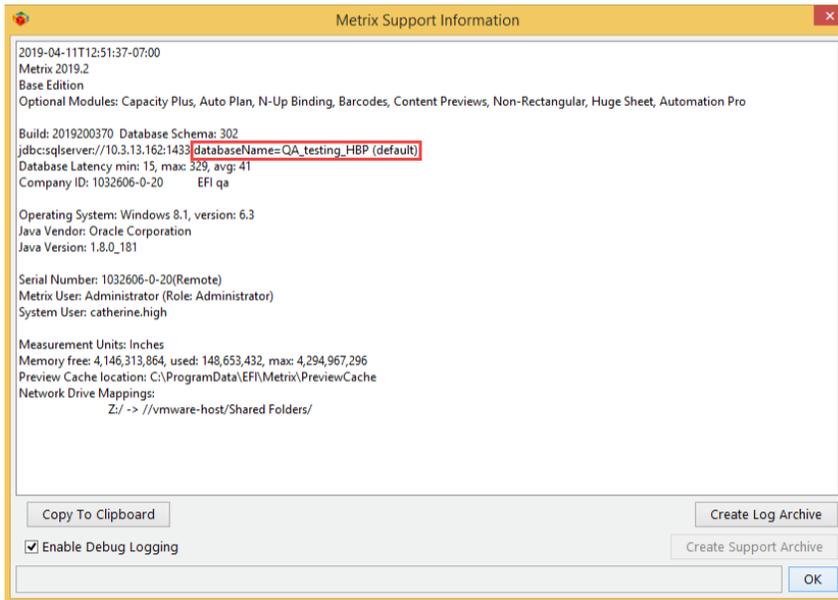
## Backing up your Metrix data on SQL Server Express

The following steps are specific to SQL Server Express. If you are using SQL Server Standard, see the instructions specific to that version on [page 9](#).

1. Check your SQL Server connection string.
2. Back up and restore the Database.
3. Create a new SQL Server login.
4. Edit the **metrix.properties** file.
5. Relaunch Metrix.

### (1) Check your SQL Server connection string

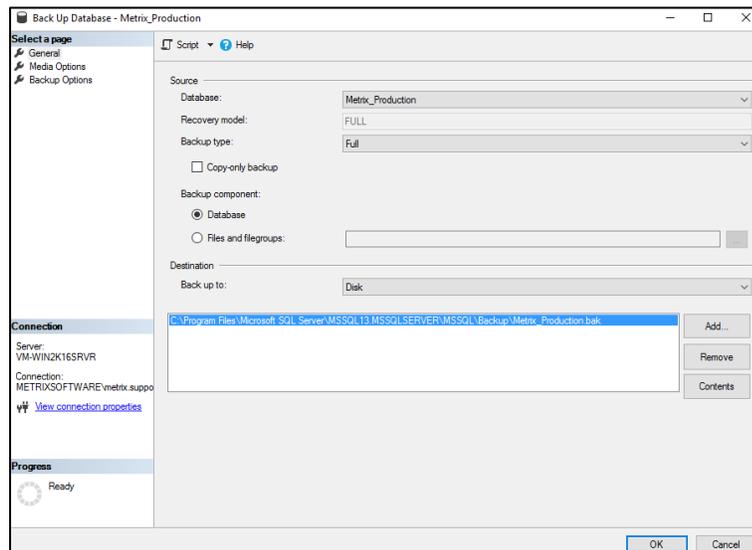
1. Open Metrix, select **Help >Support Information...** to view the original SQL Server connection string, and make note of it.



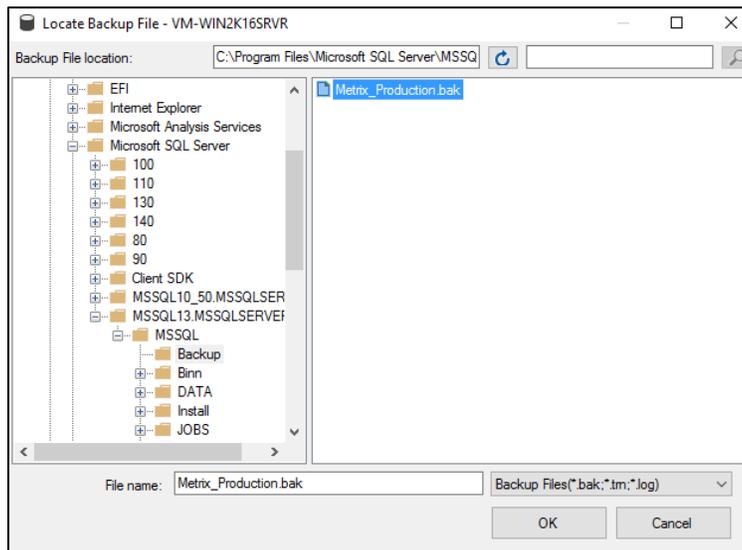
2. Click **OK**, and then exit Metrix.

## (2) Back up and restore the Database

1. Launch SQL Server Management Studio.
2. Right-click the database you want to back up, and then select **Tasks > Back Up...**
3. In the Back Up Database window:
  - Select the appropriate backup file (if not already selected).
  - Select **Full** as the Backup type.
  - Select the Media Options node on the left.
  - Under Reliability, select **Verify backup when finished**, and then click **OK**.
  - When the message window stating that “The backup of database ‘(Your database name)’ completed successfully” opens, click **OK**.



4. In the Object Explorer:
    - Select your Metrix Database.
    - Right-click (**Your database name**) > **Tasks > Restore > Database**.
  5. In the Restore Database Window:
    - Select **Device** under Source.
    - Click ... on the right of the Device field.
  6. In the Select backup devices window, click **Add**.
- Note** Make sure that File is selected as the Backup media type.
7. In the Locate Backup File window, select the appropriate .bak file, and then click **OK**.



8. In the Restore Database window:
  - Under Destination, enter the Database name in the Database field.
  - Select the Files node in the left corner of the window.
  - Select **Relocate all files to folder**.
  - Click ... on the right of the file name.
9. In the Locate Database Files window, enter the .mdf appropriate file name, and then click **OK**.
10. Repeat steps 9-10 for the Log file as well.
11. In the Restore Database window, click **OK**. Then:
  - Select Relocate all files to folder, and then click **OK**.  
The progress bar on the right shows SQL processing the backup.
  - When the message stating "Database '(Your database name)' restored successfully" opens, click **OK**.

### (3) Create a new SQL Server login

1. In the Object Explorer, select **Logins > New Login...**
2. In the Login – New window:
  - Enter a username in the Login name field.

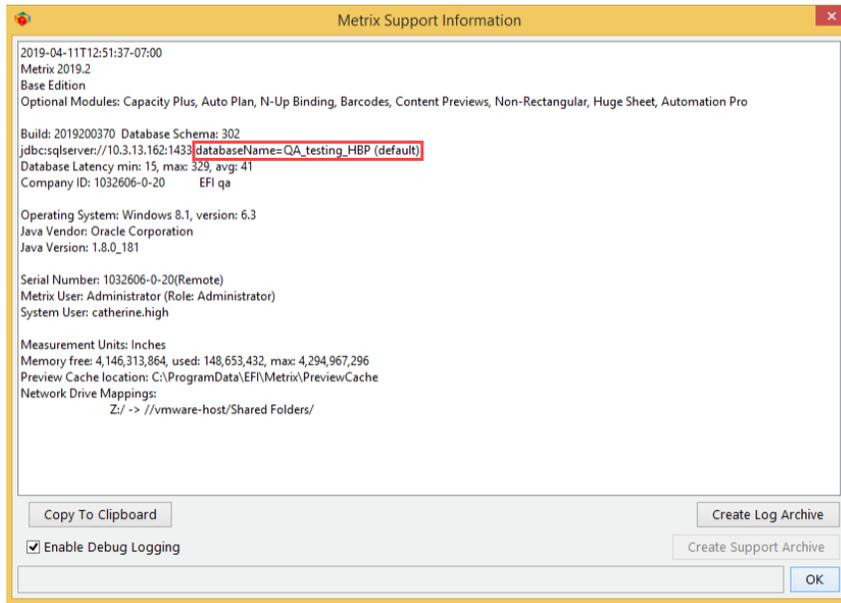
- Select SQL Server authentication.
- Enter a password in the field provided.
- Deselect **Enforce password policy**.
- Select the User Mapping node, and then select the testing database you created.
- Select the Database role membership option for your testing database, and then click **OK**.

#### (4) Edit the **metrix.properties** file

1. Using a text editor, open the **metrix.properties** file.
2. Edit the following lines in the file by substituting the appropriate information for the bracketed text:
  - Edit the jdbc.URL line. An example is below:
    - Original SQL Server connection string:  
jdbc.URL=jdbc:sqlserver://<hostname original static IP address>:1433;DatabaseName=<name of original database>responseBuffering=adaptive;
    - Updated SQL Server connection string:  
jdbc.URL=jdbc:sqlserver://<hostname new static IP address>1433;DatabaseName=<name of new database>responseBuffering=adaptive;
  - Edit the jdbc.user property. An example is below:
    - Original SQL Server connection string:  
jdbc.user=<original SQL Server username>
    - Updated SQL Server connection string:  
jdbc.user=<new SQL Server username>
  - Edit the jdbc.password. An example is below:
    - Original SQL Server connection string:  
jdbc.password=<original SQL Server password>
    - Updated SQL Server connection string:  
jdbc.password=<new SQL Server password>
3. Save and exit the text editor.

#### (5) Relaunch Metrix

1. Launch Metrix, select **Help > Support Information...** to view the modified SQL Server connection string.
2. Check that the correct **DatabaseName** appears in the Metrix Support Information window, and then click **OK**.



## For Beta Testers Only: Duplicating a Database in SQL Server

**Important** When running a beta version of Metrix in a production environment it is crucial that a beta copy is **not** allowed to connect to a user's production database. If this occurs, the beta version will upgrade the production database to a newer version that cannot be accessed by non-beta copies of Metrix. This may result in a database that can never be further upgraded.

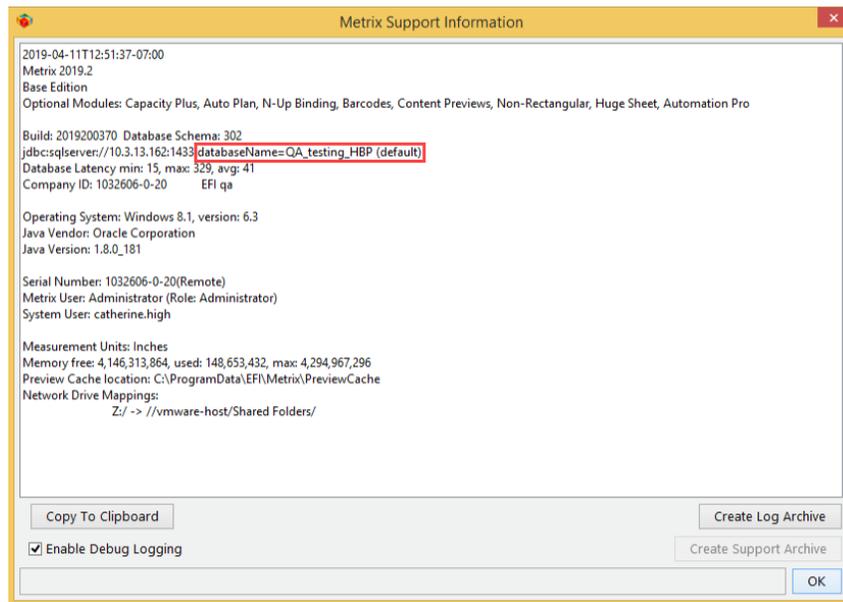
### To Duplicate a Database in SQL Server

The instructions below will guide you through making a copy of your existing Metrix database and modifying a beta installation of Metrix so it will connect only to the copied database.

1. Check your SQL Server connection string.
2. Back up the database.
3. Copy the database.
4. Create a new SQL Server login.
5. Edit the **metrix.properties** file.
6. Relaunch Metrix.

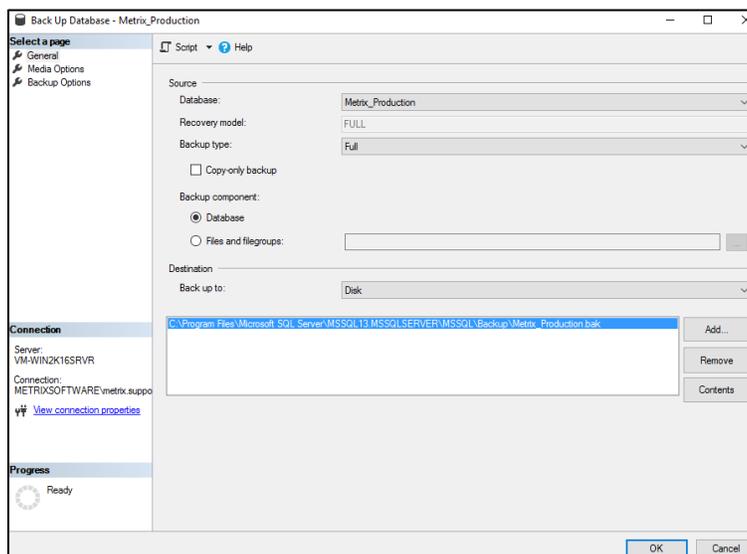
#### (1) Check your SQL Server connection string

1. Launch Metrix, and then select **Help > Support Information...**
2. After making note of the jdbc connection string, click **OK** and then exit Metrix.



## (2) Back up the database

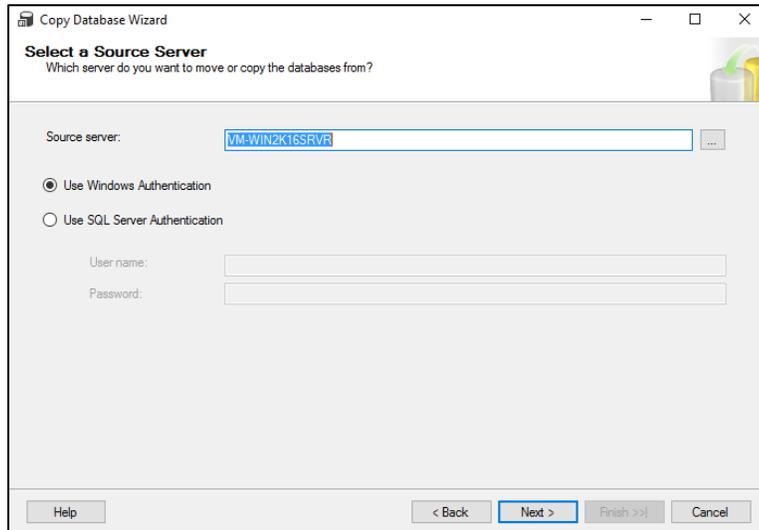
1. In **SQL Server Management Studio**, right-click your database in the Object Explorer.
2. Select **Tasks > Back Up....**
3. In the Back Up Database window:
  - Select the appropriate backup database.



- Select the Media Options node on the left.
  - Under Reliability, select **Verify backup when finished**, and then click **OK**.
  - When the message opens stating, “The backup of database ‘(Your Metrix Database)’ completed successfully,” click **OK**.
4. Select your Metrix database, right-click **Tasks > Copy Database...**

### (3) Copy the database using the Copy Database Wizard

1. In the Select a Source Server window, verify that the name in the Source server field is correct, and then click **Next**.



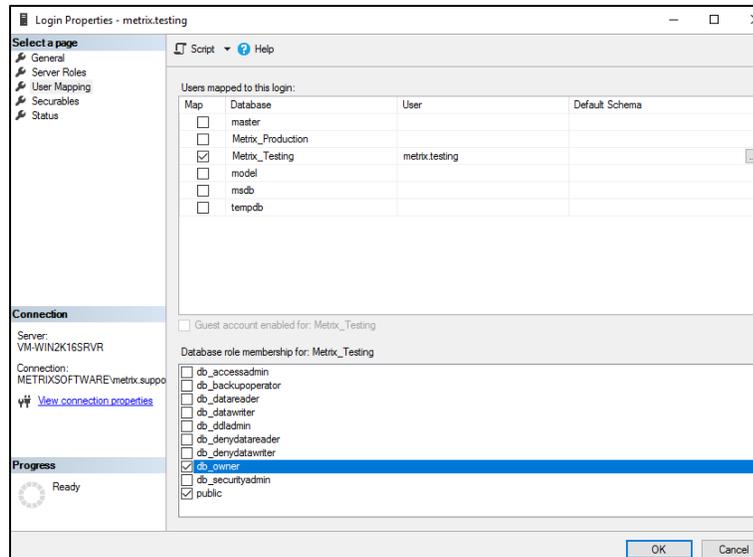
2. In the Select a Destination Server window, verify that the name in the Source server field is correct, and then click **Next**.
3. In the Select the Transfer Method window:
  - Select **Use the detach and attach method**.
  - Select **If a failure occurs, reattach the source database**.
  - Click **Next**.
4. In the Configure Destination Database (1 of 1) window, enter the Destination database in the field provided below, and then click **Next**.
 

**Note** Name the database something that will remind you this is a beta database.
5. In the Configure the Package window, click **Next**.
6. In the Schedule the Package window, select **Run immediately**, and then click **Next**.
7. In the Complete the Wizard window, click **Finish**.
8. The Performing operation window opens where you can monitor the operation's progress. Once you see the green Success icon, click **Close**.
9. In the Object Explorer:
  - Select the Databases folder.
  - Right-click and select **Refresh**.

### (4) Create a new SQL Server login

1. In the Object Explorer select the Logins folder, and right-click **New Login...**
2. In the Login – New window:
  - Enter a login name in the Login name field.
  - Select the SQL Server authentication option and enter a password.
  - If **Enforce password policy** is selected, deselect it.

- Select User Mapping on the left, and then select the appropriate database.
- Select the appropriate Database role membership for: option in the bottom half of the window as seen below. Then click **OK**.



3. Exit SQL Server Management Studio.

## (5) Edit the metrix.properties file

On your client workstations ensure that you have only one set of SQL Server connection strings active. To do this, follow these steps:

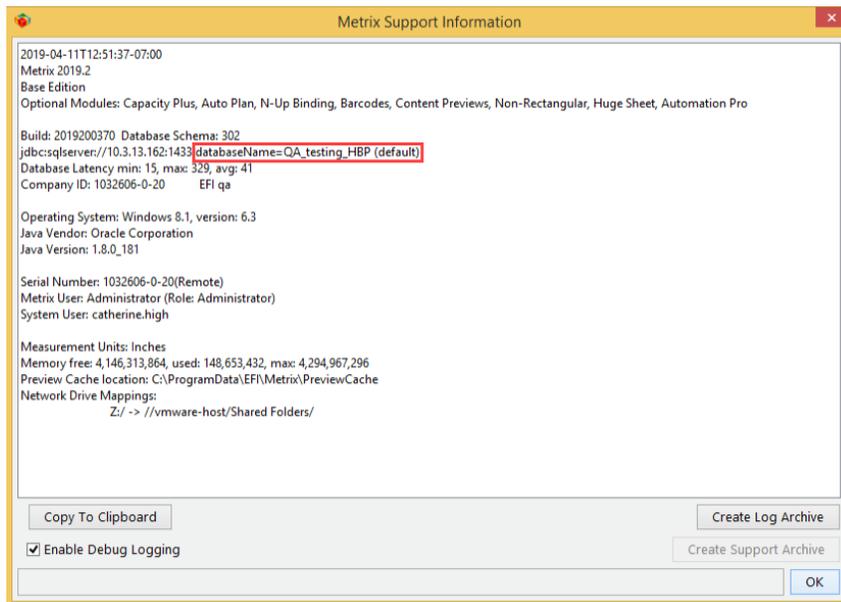
1. Make a copy of the **metrix.properties** file from a non-beta version of Metrix (found in the Metrix installation folder) and put it in the Metrix installation folder where the beta version is installed. Overwrite the **metrix.properties** file that was installed with the beta version.
2. Edit the following lines in the file by substituting the appropriate information for the bracketed text:
  - Edit the jdbc.URL line. An example is below:
    - Original SQL Server connection string:  
jdbc.URL=jdbc:sqlserver://<hostname original static IP address>:1433;DatabaseName=<name of original database>responseBuffering=adaptive;
    - Updated SQL Server connection string:  
jdbc.URL=jdbc:sqlserver://<hostname new static IP address>1433;DatabaseName=<name of new database>responseBuffering=adaptive;
  - Edit the Jdbc.user property. An example is below:
    - Original SQL Server connection string:  
jdbc.user=<original SQL Server username>
    - Updated SQL Server connection string:  
jdbc.user=<new SQL Server username>
  - Edit the jdbc.password. An example is below:
    - Original SQL Server connection string:  
jdbc.password=<original SQL Server password>
    - Updated SQL Server connection string:  
jdbc.password=<new SQL Server password>

3. Save and exit the text editor.
4. Before launching the Metrix beta, close and re-open the **metrix.properties** file to double check that you have changed the SQL Server connection string.

**Important** It is very important that you do **not** connect to your production database.

## (6) Relaunch Metrix

1. Launch the new beta copy of Metrix, and then log in.
2. Select **Help > Support Information...**
3. Check that the correct **DatabaseName** appears in the Metrix Support Information window, and then click **OK**.



**Notes** Metrix will warn you that the database schema is an older one and needs to be updated. Proceed with the updating process.

If you cannot log into Metrix due to a message saying that you cannot connect to the Data Server, then the name of the database in the **metrix.properties** file is incorrect or you do not have permission to access the database.

If you wish to run the beta database on a separate SQL Server, ask your IT department for assistance.