NORAXON

MR4 Data Backup, Management, and Sharing

Applies to all versions of MR4. Reference the MR3 Data Backup & Management Guide if you are using MR3.

Backing up your data in MR4 should be a normal part of your routine if you collect data from large subject populations regularly. This document explains how to back up, manage, and share data. There are two basic options for data backup: A **Local Database/Backup** stored on the same computer, a different hard drive, or an external database can be created, or a **Shared Database** can be created on a server.

Contents

Local Data Backup and Management

Creating a Local Data Backup

It is highly recommended to periodically back up your data to an external location in case of accidental data corruption or loss of the local hard drive. The backup should be maintained so it is up to date in preparation for transfer to an upgraded version of MR. If you already have a backup, navigate to the section, *Maintaining a Data Backup* on the next page.

Attention: Depending on the amount of data backed up, the process of creating a backup may take several minutes up to several hours. Plan accordingly so backups can be created when the PC is not in use.

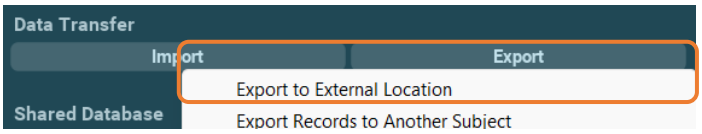
1 From the Database tab service toolbar, Recompress video files in your database before backing up to reduce the file size.

Note: Records containing high-speed videos can be reduced to 1/10th of the original file size by recompressing files.

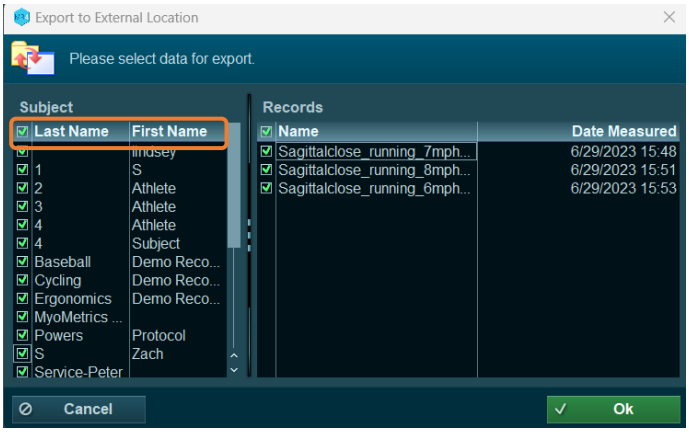
Note: Video recompression for many large files may take several minutes.

2 Create a new folder in an external location. This can be on a separate hard drive, flash drive, or external database. Name the folder “Noraxon MR data backup” or another desired name.

3 Open MR4 and navigate to the Database. From the toolbar, select *Export >> Export to External Location*



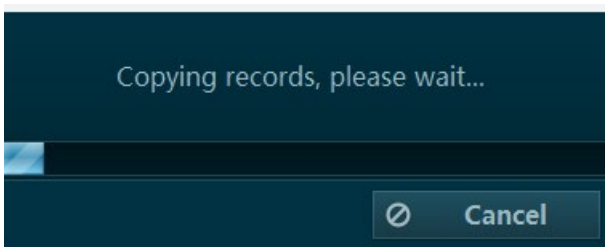
4 Click the top checkbox in the Subjects column to select all of the data in your database. Otherwise, select only the data you wish to back up. A green check ☑ will appear next to every Subject, and Record that will be saved. Click “Ok”.



5 When the file directory appears, navigate to the folder created in Step 1 and choose “Select Folder”.

6 While data saves, a progress bar will appear.

Note: If you interrupt MR4 while saving data, the software may appear as though it is not responding. It is still working to back up the data and the "copying records" message will disappear when it is finished.



Maintaining a Local Data Backup

If you do not have an existing backup for MR4 data, refer to the section above to create a local backup.

Attention: Depending on the amount of data being backed up, the process of creating a backup may take several minutes and up to several hours. Plan accordingly so backups can be created when the PC is not in use.

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Note: Records containing high-speed videos can be reduced to 1/10th of the original file size by recompressing files.

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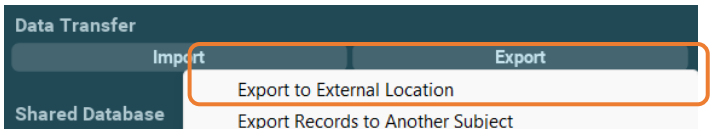
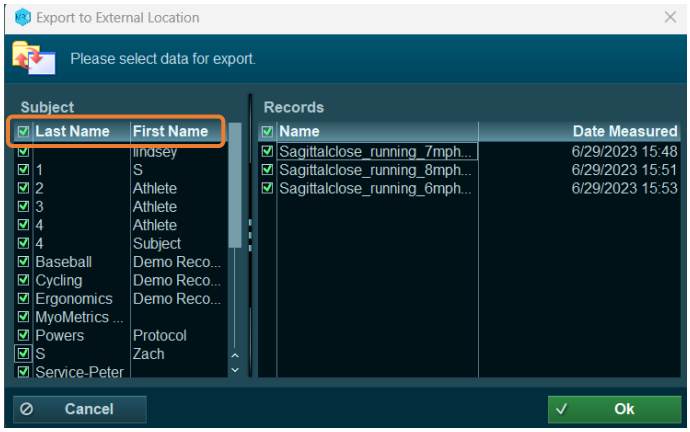


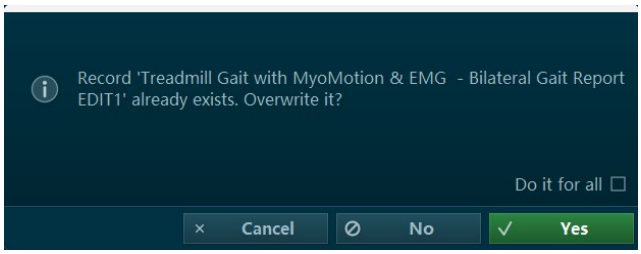
3 Click the top checkbox in the Subjects column to select all the data in your database. Otherwise, select only the data you wish to back up. A green check will appear next to every Project, Subject, and Record that will be saved. Click "Ok".



4 When the file directory appears, navigate to your backup folder.

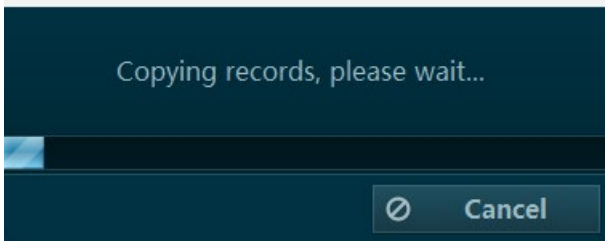
Note: Do not navigate deeper into the subfolders of your backup folder.

Note: A message may appear telling you a record already exists in your backup location. You have the option to overwrite it ("Yes"), or not ("No"). Select "Do it for all" to overwrite or not overwrite existing copies



5 While data saves, a progress bar will appear. If you interrupt MR3 while saving data, the software main appear as though it is not responding. It is still working to back up the data and the "copying records" message will disappear when it is finished.

Note: Clicking on the screen while exporting data may cause MR to show a "Not responding" message. The program is typically still doing something in the background, and, if left alone, should finish the process.



Setting up a Local External Database

If no external database is being used, your computer will automatically store saved MR3 recordings to your PC's main hard drive (C: drive). If you have a small C: drive or your recordings take up a large amount of space on your computer, then it may be necessary to save your data to a separate local hard drive with a higher capacity.

Creating an External Database is not a substitute for creating a separate backup. The external database will store data to a specified location, while a data backup will store a copy of your data to an external location. Even if you create an External Database, it is still recommended to periodically maintain a separate backup.

Follow these steps to set up a local external database:

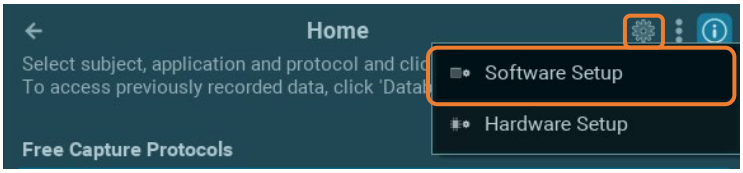
1 Create a new folder on a different hard drive to save data to. For example, in your PC's (D:) Drive. Name the folder

Note: This Local External Location cannot be located on a shared drive or any other drive accessible from other locations. For more details on setting up a Shared Database location on

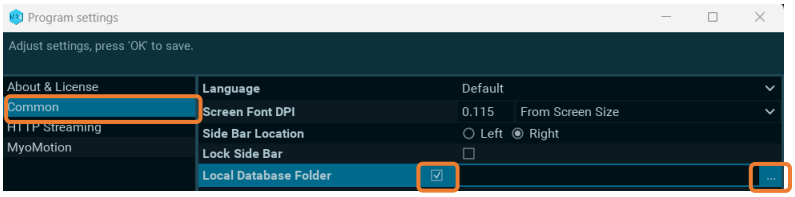
something you will remember, like "Noraxon MR external database."

a server, reference the Settings up a Shared Database section of this document.

2 At the top-right of the Home tab, click the gear icon then select **Software Setup**.



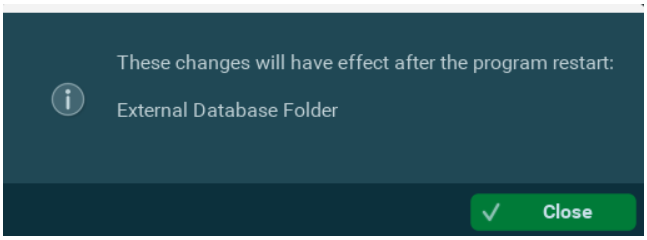
3 In the Common settings, check the box that says **Local Database Folder**, then select the ellipsis (…) on the right to select a folder to save to.

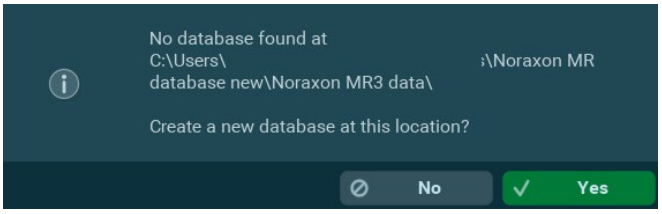


4 When the file directory appears, navigate to the folder created in step 1 and choose **Select Folder**.

Select "Yes" to create a new database at this location. A backup location will be created after the software automatically restarts.

Note: If you are connecting a previously established database, this message will not be shown.





5 To populate your new database location, create a backup in that location following the steps in the *Creating a Backup* section. It is not necessary to create a new backup folder. The folder created in Step 1 of this section acts as the new database location/backup location.

Shared Data Backup and Management

This section contains a summary of technical requirements and instructions for setting up a Shared Database in MR4. A Shared Database allows multiple users within the same network to access a central subject and record database. Through a network connection, changes to data on local database can be uploaded to and downloaded from the Shared Database.

Scope

The configured Shared Database can be accessed and synced to multiple PCs for data collection and analysis purposes.

A Shared Database is an ideal solution for:

- Clinics with multiple data collection or analysis PCs where multiple clinicians need access to the same recorded data.
- Academic Projects where students may need to access recorded data for analysis or viewing.
- Any user who wants to streamline the data backup process and access that backup from multiple computers.

Requirements and Considerations

Requirements

A Shared Database is only supported for locations on local network servers, e.g., Network Attached Storage (NAS). All computers connected to the Shared Database must have access to the Shared Database location on the network drive during syncing.

> *Attention: Maintaining a Shared Database on a cloud location (e.g. OneDrive, Dropbox, Google Drive) is not supported. MR4 cannot maintain continuous control of when certain folders are synced or stored by these automatically synced, which makes data corruption likely.*

Considerations

While a Shared Database folder can be created on any network drive, there are several factors that influence the speed of data syncing to consider when choosing one. For all factors, higher speeds are preferred for optimal performance.

1. The processing power of the PC running MR4.
2. The speed of the HDD and/or SSD on the PC.
3. The speed of the network (1Gbe to 10 Gbe)
4. The speed of the NAS HDD/SSDs.
    - *SSDs are typically 3-4x faster than HDDs, although some SSDs are slower than others.*

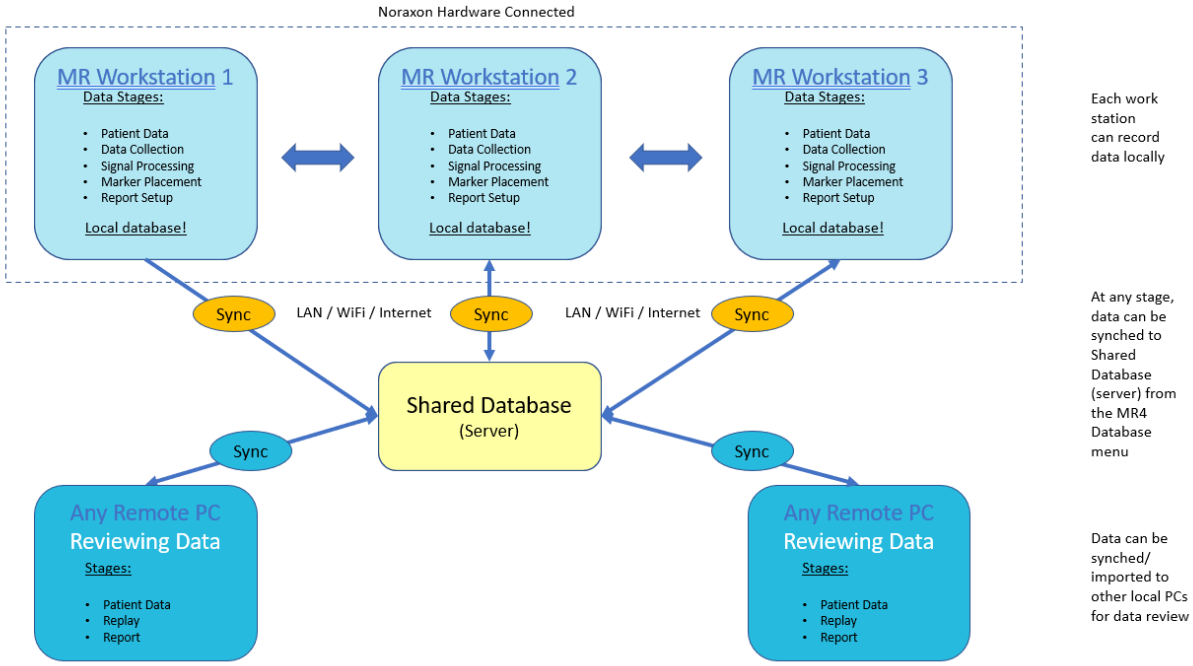
> *Noraxon recommends consulting an IT professional for accurate network drive setup.*

Data Security

Data collected using the Noraxon hardware is stored locally on the machine running Noraxon MR4 software and/or inside of the Shared Database located in the institution's own server infrastructure. The data is not encrypted.

For more information about the type of data that is stored, reference the *Software Security Reference Guide*.

Data Workflow



Creating and Maintaining a Shared Database Location

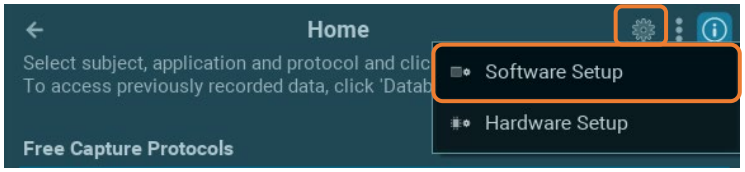
Creating a Shared Database Location

Follow these steps to set up a local external database:

1. Create a new folder on a server to contain the MR Shared Database.

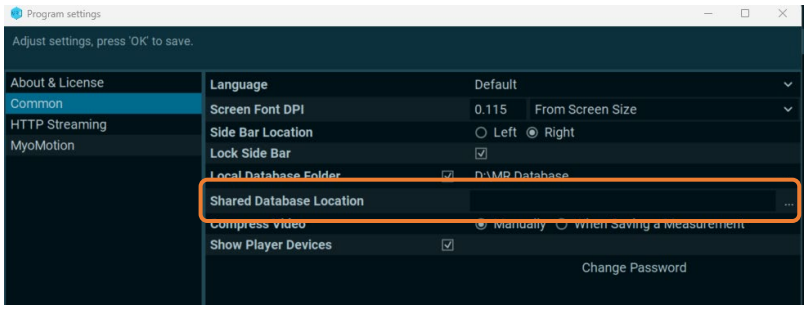
Note: The server location must be accessible by all PCs accessing the Shared Database.

2. At the top-right of the Home tab, click the gear icon then select Software Setup.

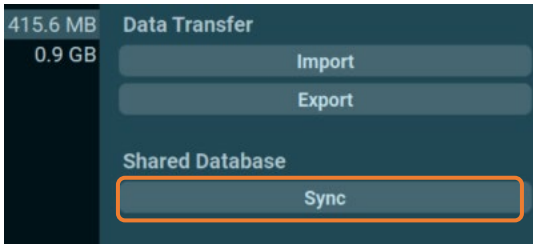


3 In the Common settings, select the Shared Database folder in clicking the ellipses (…) next to the **Shared Database Location**.

Click "Ok" to save the new Shared Database Location.

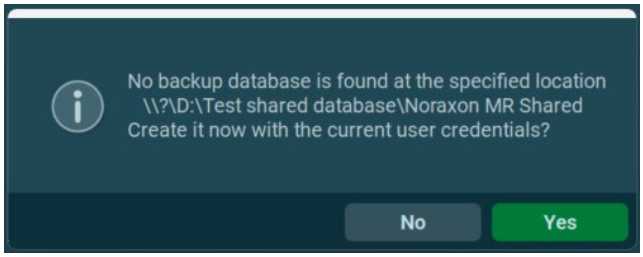


4 Go to the Database tab. In the service menu under **Shared Database**, select **Sync**.

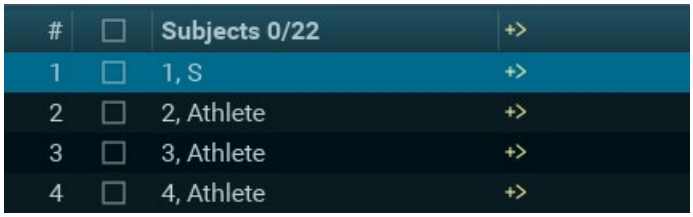


5 A message will appear confirming the creation of a new Shared Database with listing the path selected.

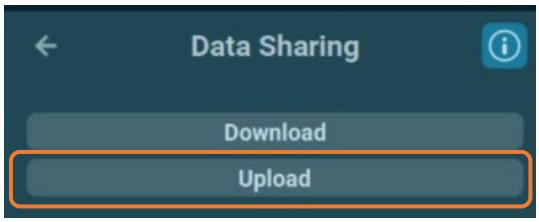
Note: The folder containing the MR data hierarchy is called "Noraxon MR Shared".



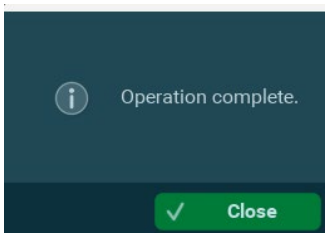
6 The first time the Shared Database is accessed, all Subjects and Records will appear with the icon "Only local," which specified data is only located on the PC's local database location.



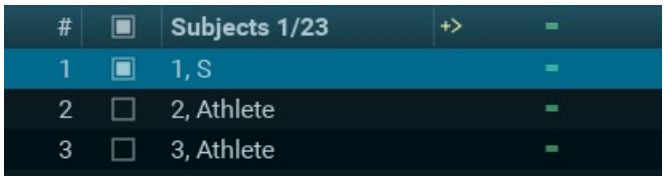
7 Select Subjects and Records to sync to the Shared Database, then choose **Upload** in the service menu.



8 After data is synced, a message will appear stating the operation was completed.



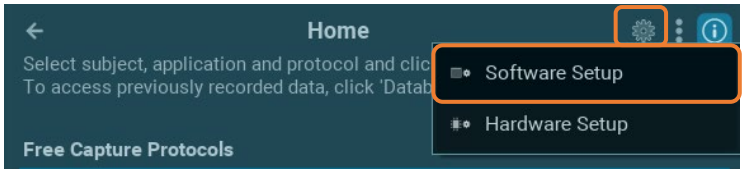
9 All synced subjects and records will appear with the icon “Equal,” meaning the same records are saved locally and in the Shared Database.



Connecting to an Existing Shared Database Location

The steps below contain instructions for connecting to a Shared Database that has already been created by another user on a local network drive.

1 At the top-right of the HOME tab, click the gear icon then select **Software Setup**.

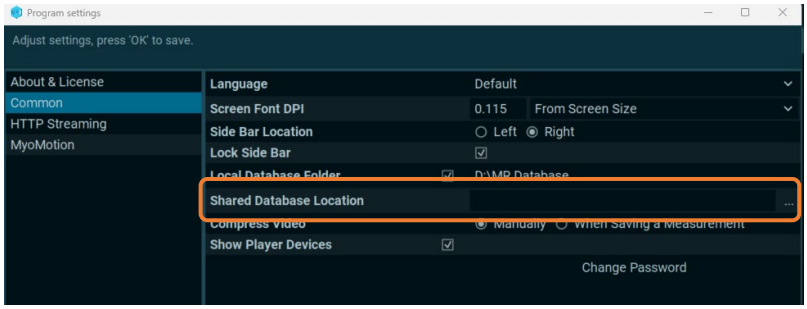


2 In the Common settings, click the ellipses (…) next to the **Shared Database Location**.

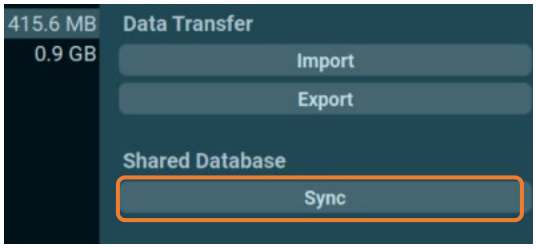
Select the folder containing the Shared Database

Note: This folder must contain the “Noraxon MR Shared” subfolder.

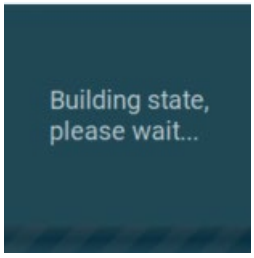
Note: The server location must be accessible by all PCs accessing the Shared Database.



3 Go to the Database tab. In the service menu under **Shared Database**, select **Sync**.



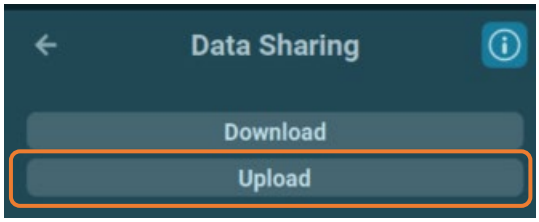
4 A message will appear confirming that the Shared Database is being linked.



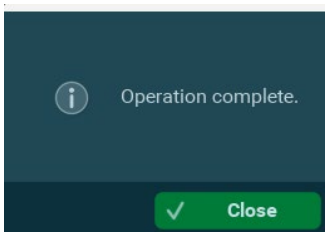
5 All data present in the Shared Database and your local database will be present in the Shared Database. An icon next to all Subjects/Records describes the Subject/Record state and location of the data.

Note: See the section Subject/Record States for more details on the state icons.

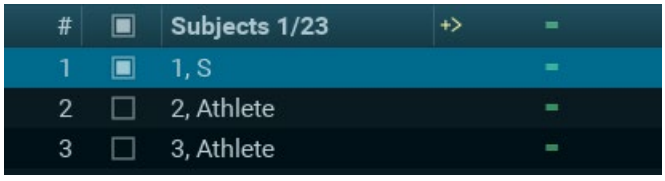
6 Select Subjects and Records to sync to the Shared Database, then choose Upload in the service menu. This will populate your Shared Database.



7 After data is synced, a message will appear stating the operation was completed.

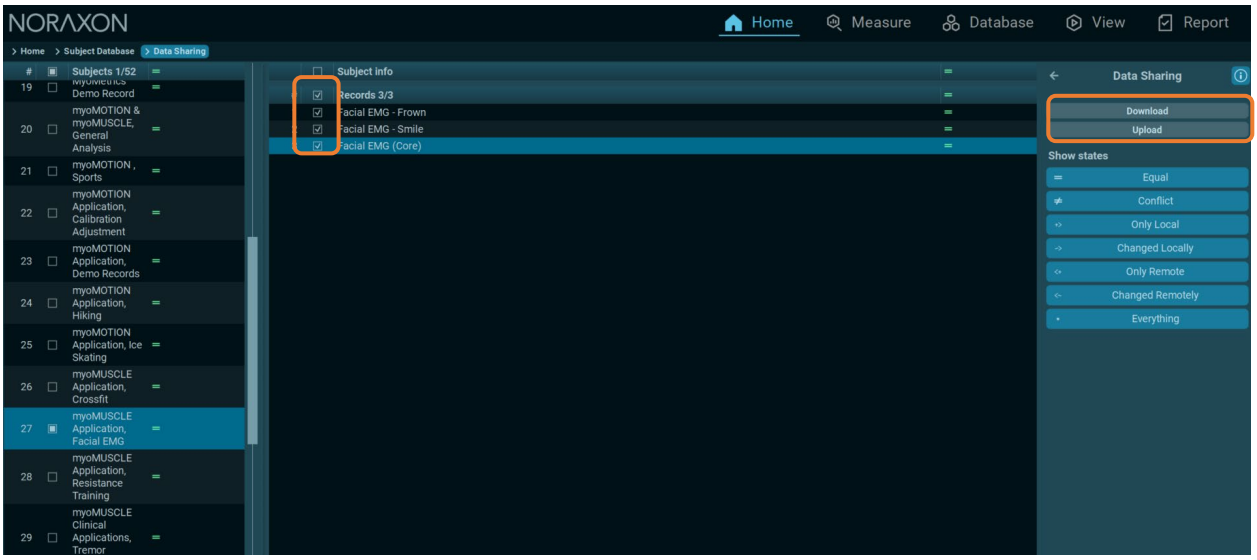


8 All synced subjects and records will appear with the icon "Equal," meaning the same records are saved locally and in the Shared Database.



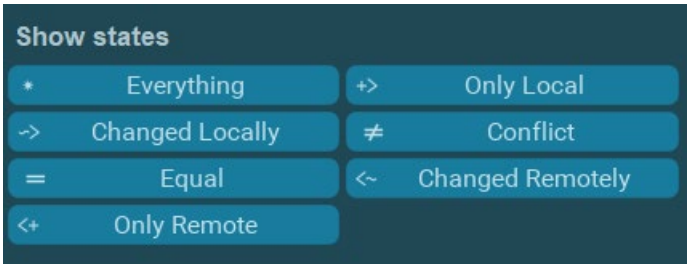
Syncing Data to a Shared Database Location

Data synching is managed using the **Download** and **Upload** buttons. Any data selected in the checkboxes under Subjects and Records will be Uploaded to Shared Database Location or Downloaded from the Shared Database Location.



Subject/Record States

Each Subject and Record in the Data Sharing Sync menu has a state, which is described by the icons in the service menu.



The state can change every time Subjects and Records are Uploaded to or Downloaded from the Shared Database location.

State	Explanation
* Everything	When this state is selected, all Subjects/Records regardless of state in the local and Shared Database will be visible.
+> Only Local	The Subject/Record is only present on the local PC. It must be Exported to be seen on the Shared Database.
<+ Only Remote	The Subject/Record is only present in the Shared Database. It must be imported to be seen on the local PC.
-> Changed Locally	The Subject/Record was changed locally and no longer matches the version located in the Shared Database.

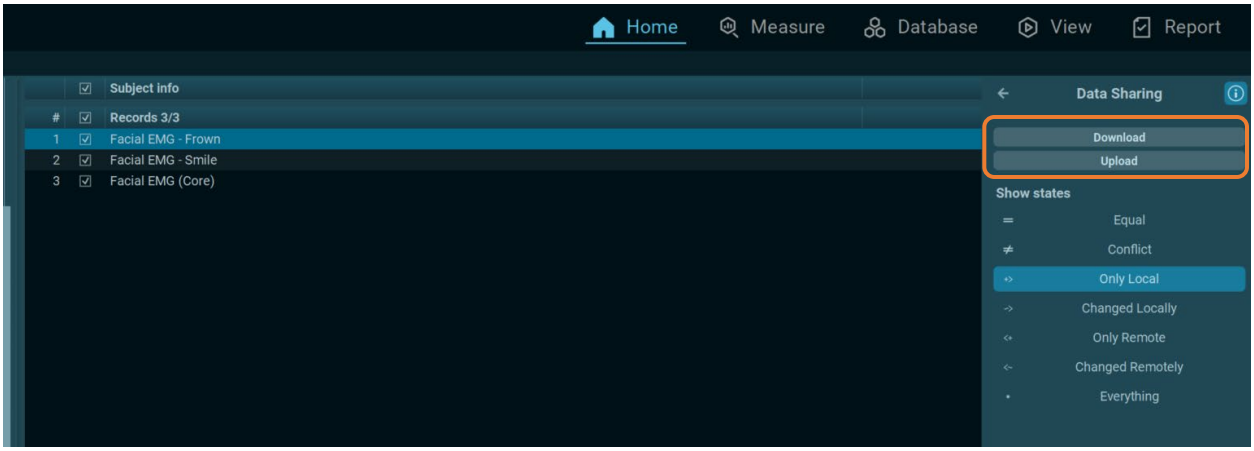
<- Changed Remotely	The Subject/Record was changed remotely by another user and no longer matches the version on the local PC.
≠ Conflict	There is a Conflict between the Subject/Record in the Shared Database and Local Database.
= Equal	The same version of the Subject/Record is available in both the Shared Database and Local Database.

The States are also buttons that can be used to filter the data shown in the Shared Database Location. When selected, only Subjects/Records that match the selected state will be shown in the Shared Database.

Example: Only Subjects/Records with the states “Changed Locally” and “Only Remote” will be shown.

Data Backup and Restoration

To use the Shared Database as a data backup location, Data Sharing Users can periodically Upload their data to the Shared Database. This may take the place of a local data backup folder.



If data is accidentally deleted locally, it can be restored from the Shared Database using the Import function as long as the data is present in the Shared Database.

There is currently no automatic data backup or synchronization available, so data backup using a Shared Database must be done manually using the Upload button.

FAQs

Q: What is a shared database on a local network server?

A: A shared database on a local network server allows multiple users within the same network to access a central subject and record database. Through the network connection, changes to data on the local copy can be uploaded to and downloaded from the shared database.

Q: Can data in the Shared Database be collaborated on in real-time?

A: Data cannot be collaborated on in real-time, but different users can access the Shared Database simultaneously to download/upload data to/from their local database.

Q: How do I connect to the Shared Database?

A: To connect to the Shared Database, ensure your computer is connected to the local network. You will need the network address of the server hosting the Shared Database and

possibly specific credentials (username and password) to access it. These credentials would be given by the institution's IT personnel.

More details can be found in the *Connecting to an Existing Shared Database Location* section of this document.

Q: What are the system requirements to use the Shared Database feature?

A: The system requirements depend on the size of the database and desired upload/download speed. Generally, you will need a network attached storage (NAS) device compatible with your machine, a network connection with sufficient bandwidth, and adequate storage space (locally and on the network drive).

More details can be found in the *Requirements and Considerations* section of this document.

Q: Will I still be able to access the Shared Database if I lose my connection to the network drive containing my Shared Database?

A: If you lose your connection to the network, you will not be able to access the Shared Database until the connection is restored. The local database will be accessible regardless of network connection.

Q: Is creating/maintaining a Shared Database on a cloud-synced location (e.g. OneDrive, Google) supported?

A: No, maintaining a Shared Database location on a cloud location is not supported. MR4 cannot maintain continuous control of when certain folders are synced or stored by automatically updated locations, which makes data corruption likely.

Q: Is my data automatically backed up when I create a Shared Database location?

A: A Shared Database can be used as a backup location, but it must be synced manually using the "Upload" button. For more details see the *Data Backup and Restoration* section of this document.

Q: Can I access the Shared Database remotely?

A: Accessing the shared database remotely is not supported due to security concerns. However, remote access can be enabled by configuring a VPN or other secure network extension. Consult your IT personnel for further guidance.