

# **OAS Playout Media Sharing Guide**

**V1.4**

**May 2023, by Jon Bird**

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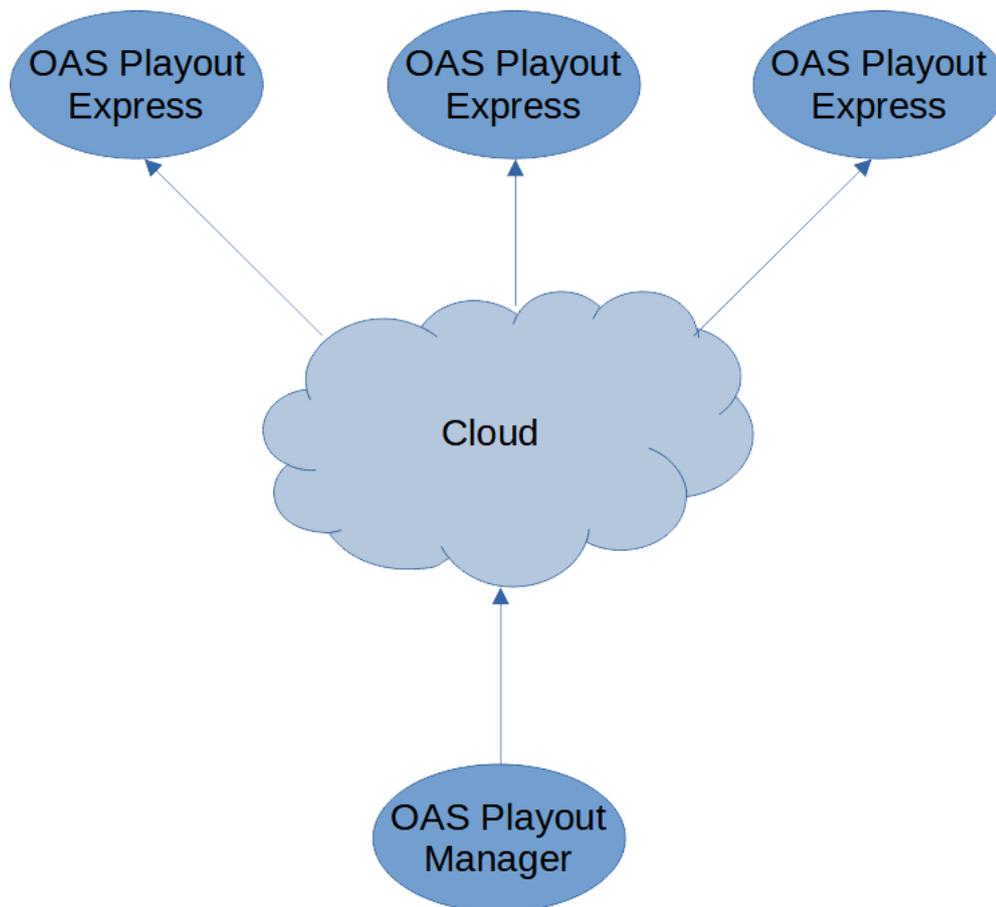
# 1 INTRODUCTION

OAS Payout provides the capability to allow a radio station to share its media and database content with other OAS Payout users via the cloud. This can greatly assist in then allowing presenters to broadcast remotely using existing station content.

This document provides a guide on how to set up and use this capability. The primary intended audience is the personal based at the radio station wishing to or responsible for setting up the sharing infrastructure. If you are a remote based presenter, the radio station should provide you with the necessary instructions on how to configure and use your software in order gain access to the shared content provided by the station without needing to understand the technicalities behind it.

## 1.1 Overview

The general concept is shown in the following diagram.



### OAS Payout Media Sharing Concept

The radio station (using *OAS Payout Manager*) is used to upload all (or more likely, a subset) of the audio content (and possibly the database itself) held at the station to the cloud. This may then be downloaded via one or more remote presenters running *OAS Payout Express*.

It is important to note that:

- **Upload to the cloud is only supported with Payout Manager.**
- **Download from the cloud is only supported with Payout Express<sup>1</sup>** (the Express version is specifically designed for use by home/part time broadcasters).

For more information on the differences between the two versions, please visit the [website](#).

<sup>1</sup>It is however possible to download some packages and load them manually into both Playout Manager and other 3<sup>rd</sup> party playout systems using the free *OAS Playout Media Sync* application. This is covered in more detail in section 5.

Additionally, if you are looking to have some of your programmes presented remotely there are a number of other things that you need to do which fall outside of the scope of this guide. That includes how you physically send the audio to the studio and feed it into your mixing desk. You also need to consider how to synchronize content between the remote presenter and central studio.

## **1.2 Media Sharing Concepts**

Essentially the media sharing capability provided by OAS Playout provides two distinct modes of operation. You can freely mix and match between the them, both in terms of the radio station uploading content & the remote users downloading them. However, as will become clear, realistically a given remote user (or system) will almost certainly only be exclusively using one mode.

### **1.2.1 Sharing the entire media content and database**

As the title suggests, this allows for the sharing of the station's entire audio content and database. It is designed to allow a remote system to mirror that held at the station.

Typically, this would be to maintain one or more self-contained studio setups. Most likely, these would be controlled by the station itself and loaned out to presenters as and when required. Essentially it provides a mechanism to allow the remote system to be kept up to date without the need to keep bringing it back to the main studio to manually copy the latest files and database onto it. This is covered in more detail in section 3.

Since this mode of operation effectively replaces the entire database with a copy from the radio station, this is why the two modes of operation are, (from a remote user's point of view) mutually exclusive. Any media subsets added to the database would effectively be lost the next time a database update from the studio is performed.

### **1.2.2 Sharing a media subset**

This allows for the sharing of a subset of the audio content that is available at the station. Playout Manager allows for the sharing of *Playlists*, *Custom Audio Cliplists* and selected music, jingles and/or adverts. Each of these is held as a package in the cloud and Express users can then pick and choose which ones they need.

In this mode of operation, the remote presenters maintain their own Playout database. Indeed, they may well have content that falls outside what the radio station provides. Most likely the presenter will have their own studio setup and will be confident in using it without much assistance.

Here is a short [YouTube clip](#) which demonstrates this concept.

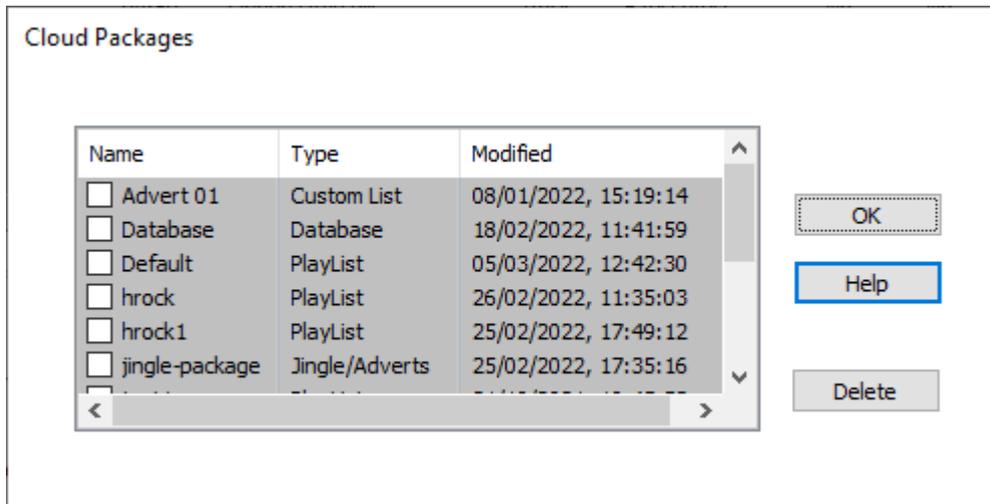
#### **1.2.2.1 Metadata sharing**

Metadata sharing allows information about the entire audio content (but not the audio files themselves) held within the station's database to be uploaded to the cloud. This is an advanced mode of operation which if implemented allows remote user's access to the station's content "on demand", much like a streaming media service such as Spotify. This is covered more in section 4.

### 1.3 Packages

Playout Manager provides a number of different mechanisms for uploading media to the cloud, this is covered in detail in the help supplied with that package. For example, it's possible to (semi) automatically upload a specific Playlist to the cloud every time the *Update* button is on the *Playlist Edits* tab. Each time this occurs, it results in something called a *Package* being added (or modified) in the cloud.

You can view the list of Packages within Manager via the *Tools* menu, then select *Package Maintenance* dialog.



Each Package has the following attributes:

*Name* – this identifies the name of the package. This may be automatically derived (for example Playlists use the same name as held in the database) or entered manually when the package is uploaded (eg. When uploading a specific set of music or jingles).

*Type* – this identifies what type the package is – for example a Playlist is a type of package.

*Modified* – this indicates when the package was last uploaded by Playout Manager

This dialog also allows the deletion of packages that are held in the cloud.

### 1.3.1 Package Types

This table provides a summary of the different package types that can be shared in the cloud.

Package Type	Description
Custom List	Comprises an entire Custom/Button Wall list. The package name reflects that of the originating list in Playout Manager. When synchronized in Playout Express, content in this list will be added to the current database.
PlayList	Either an entire or subset of a Playlist. When uploading an entire list, the name reflects that of the originating list in Playout Manager. When a portion of a Playlist is shared, the package name is defined by the user at the point it is uploaded. When synchronized in Playout Express, content in this list will be added to the current database.
Jingle/Adverts	A subset of the audio held within the <i>Jingle/Misc Edit</i> section of Playout Manager. The package name is defined by the user at the point it is uploaded. When synchronized in Playout Express, content in this list will be added to the current database.
Music	A subset of the music held within the <i>Music Edit</i> section of Playout Manager. The package name is defined by the user at the point it is uploaded. When synchronized in Playout Express, content in this list will be added to the current database.
Database	Comprises an entire copy of the Playout database. When uploaded by Playout Manager, this will also include any new audio files that have been added to the database. When synchronized in Playout Express, this will <b>replace</b> the local database in its entirety with the one from the cloud.
Metadata	Comprises information about the entire audio content (but not the audio files themselves) from the Playout database. This advanced mode of sharing then allows remote user's access to the audio "on demand".
Metadata Update	Comprises a partial update of audio content (but not the audio files themselves) from the Playout database. This advanced mode of sharing then allows remote user's access to the audio "on demand".

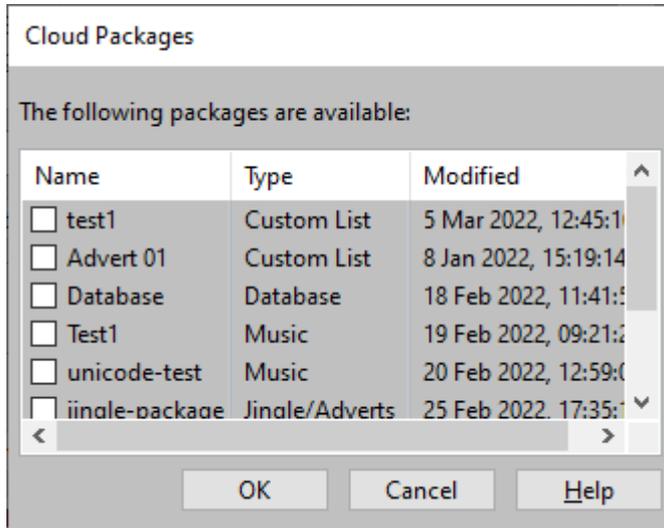
The help included with Playout Manager provides full details on how to go about uploading these different types of packages to the cloud.

When using the *Package Maintenance* dialog in Playout Manager, additional packages named *Database Audio* may also be present in the list – these do not show up in Playout Express. These are discussed further in section 3.5

## 1.4 Workflow

The workflow is essentially the same regardless of what media sharing is being performed:

1. At the radio station, Playout Manager is used upload the Package(s) to the cloud.
2. The remote presenter then utilises the *Tools, Synchronise with Cloud* menu option from Playout Express which brings up the list of new Packages.



3. He/she selects the desired packages to download and clicks OK
4. The requested Packages are downloaded from the cloud and loaded into the system.

Note: The Package list displayed within Playout Express only shows packages that have not been already downloaded. However, if a Package is subsequently updated (for example a pre-existing Playlist is then modified) it will then be included in the list again and may be downloaded to bring it up to date with the studio.

## 2 CLOUD OPTIONS

One of the first things that will need to be addressed is to select and the set up the cloud platform that will be used for media sharing. Playout utilises a modular concept for implementing the underlying protocols used for interfacing to a given cloud platform, allowing new modules to be dropped in as and when the demand for a new solution arises.

At the time of writing, Playout supports the following cloud solutions:

- Using shared web space storage via FTP/HTTP, typically via a radio station's existing web site.
- Dropbox based cloud storage
- Local file system

Each of these are discussed further in the following sections.

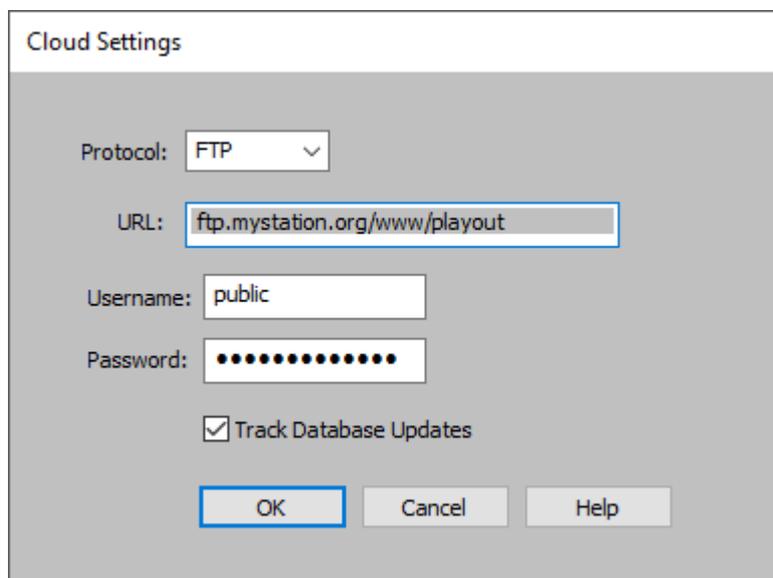
### 2.1 Shared web space storage

Most radio stations will have some form of web site and normally will only be making use of a fraction of the storage provided by their hosting provider. Even fairly basic accounts now offer anything from 5-10GB and upwards of storage and this can readily be used to provide a cheap means of cloud storage. The downside is that there are potential security issues with this approach that are better dealt with using a dedicated cloud provider. This is discussed further in section 2.1.3.

Using this solution, Playout Manager utilises the File Transfer Protocol (FTP) to upload/download files (this is normally the protocol used to upload files to a website), whilst Express utilises HTTP(S) to download them ie. The same protocol as used with a web browser.

#### 2.1.1 Playout Manager FTP Configuration

Playout Manager (as used within the radio station) will need to be configured with the FTP details used to transfer files to your website. This is accomplished from the *Settings, Cloud* menu within Manager.



The screenshot shows a 'Cloud Settings' dialog box. It features a 'Protocol' dropdown menu currently set to 'FTP'. Below it is a 'URL' text field containing 'ftp.mystation.org/www/playout'. The 'Username' field is set to 'public', and the 'Password' field is masked with dots. A checkbox labeled 'Track Database Updates' is checked. At the bottom, there are three buttons: 'OK', 'Cancel', and 'Help'.

From the *Protocol* drop down list, select FTP.

The URL specifies the FTP site and folder where the media will be held on your website. For example, assume that the FTP site is named <ftp.mystation.org>. Many website configurations

then store the web content in a folder named **'www'**. You should always use a dedicated folder for storing shared media, so let's call that **'playout'**.

The URL is then <ftp.mystation.org/www/playout>

Enter the FTP username and password in the respective boxes and click OK.

Note: When the connection is first made, Manager will automatically create the new folder (in this case 'playout') if it doesn't already exist. However, it will only create the bottommost folder so if the 'www' folder part doesn't exist, you'll get an error. You will need to use a normal FTP client to create the upper-level folders in this case.

If in doubt, consult with whoever maintains your station's website.

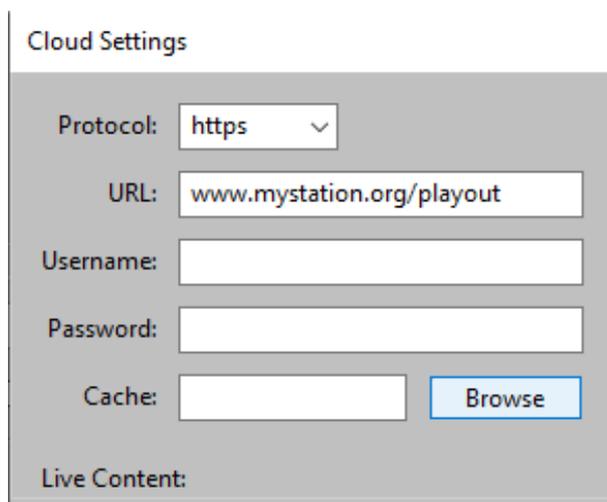
### 2.1.2 Playout Express HTTP(S) Configuration

All Playout Express users participating in the media sharing need to be provided with the radio station's website address where the shared media will be located.

Using the examples given in the previous section, we assume that the station's address is [www.mystation.org](http://www.mystation.org). We configured Playout Manager to store the shared media in a sub-folder underneath the main site named **'playout'**.

The URL for Express users is then: [www.mystation.org/playout](http://www.mystation.org/playout)

Express also has a *Settings, Cloud* menu where this information is stored:



The *Protocol* drop down must be set to HTTP (or preferably HTTPS, see 2.1.3) and the website address entered in the *URL* box.

All other fields can be left blank.

### 2.1.3 Security Considerations

Sharing media using your station's website is a simple and effective approach however in the simple setup described in the preceding sections, it isn't really protected from anyone accessing the content if they know what the website address is ([www.mystation.org/playout](http://www.mystation.org/playout)). If accessed, many web servers will simply provide a list of all the files held here which can then be freely downloaded. Of course, you may decide that there is nothing that sensitive in what is ultimately a collection of audio files. Equally it can be argued that anyone discovering this particular folder on your website is very unlikely.

Nevertheless, there are some simple things that can be addressed to mitigate this. The first is that if your website utilises the more secure address format of https (over plain http – ie. <https://www.mystation.org>) then instruct your Express users to select HTTPS in the *Protocol* dropdown when specifying the URL. That will ensure all traffic, including the website address is encrypted.

Secondly, it is worth ensuring the default behaviour of the web server when accessing this folder is **not** to present a list of files that are located here. This can easily be accomplished by uploading (via an FTP client) a dummy “index.html” file into the folder.

If the web server is Apache (and your hosting provider doesn't block their use), there are additional things you can do with *.htaccess* and *.htpasswd* files to further secure the folder. This includes adding in usernames and passwords which then requires the Express users to enter this information in the Cloud settings dialog in order to access the shared media. However, this is beyond the scope of this guide.

## 2.2 Dropbox

Dropbox is a dedicated cloud storage service offering extensive capabilities in terms of hosting and sharing files securely. The free plan provides storage for up to 2GB of data.

OAS Playout Manager and Express have integrated support for directly accessing Dropbox via the (Dropbox) *OAS Playout Media Sync* application.

The radio station will need to create/sign up to a Dropbox account in order to use this capability – visit <https://www.dropbox.com> for more details.

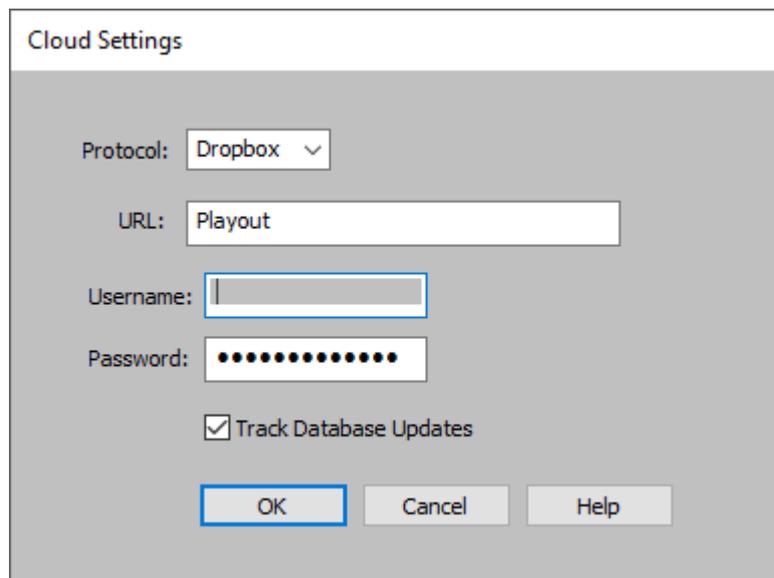
Once you have an account, you need to visit <https://playout.onasticksoftware.co.uk/dropbox> in order to grant permissions to the *Media Sync* application. This will take you through several steps of first logging you into Dropbox (if you aren't already) then verifying that you want to allow the app to have access to your account.

Once this process is complete, you will be provided with a unique *access token*, which as stated on the website must be used as the *Password* when authenticating both Manager and Express.

You should keep this code safe however if you do lose it, don't worry. You can go through the authentication process again and it will generate you a new code.

### 2.2.1 Playout Manager Dropbox Configuration

This is accomplished from the *Settings, Cloud* menu within Manager.



The screenshot shows a 'Cloud Settings' dialog box. It features a 'Protocol' dropdown menu with 'Dropbox' selected. Below it is a 'URL' text box containing the text 'Playout'. There are also 'Username' and 'Password' text boxes, with the password field masked by dots. A checkbox labeled 'Track Database Updates' is checked. At the bottom, there are three buttons: 'OK', 'Cancel', and 'Help'.

From the *Protocol* drop down list, select *Dropbox*.

In the URL, enter the name of the folder in your Dropbox account where you want to store the shared media – for example, entering "Playout" will create (if it doesn't already exist) this folder and locate the files here.

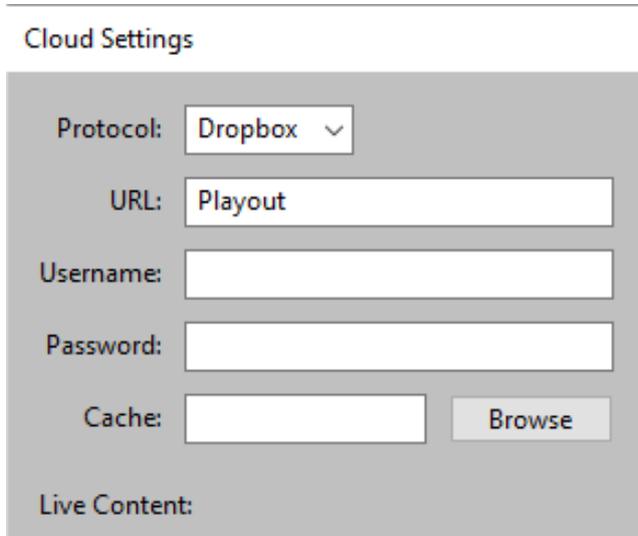
Note that if you want to use a folder that is greater than 1 level of depth from the root of your cloud storage eg. "Playout/Shared/Media", you need to create these manually either via the web site or the Dropbox app. Playout Manager will only create the initial folder for you. Also, when specifying multiple folders, use "/" over the Windows "\\" delimiter and do not include a trailing "/" at the end of the path.

In the password box, paste in the access token which you obtained when authenticating the OAS Payout Media Sync Application as described in the previous section.

### 2.2.2 Payout Express Dropbox Configuration

All Payout Express users participating in the media sharing need to be provided with the same *URL* (Dropbox media folder) and access token as is entered within Manager.

Express also has a *Settings, Cloud* menu where this information is stored:



The screenshot shows a 'Cloud Settings' form with the following fields:

- Protocol:** A dropdown menu with 'Dropbox' selected.
- URL:** A text input field containing the text 'Payout'.
- Username:** An empty text input field.
- Password:** An empty text input field.
- Cache:** An empty text input field followed by a 'Browse' button.
- Live Content:** A label at the bottom of the form.

The *Protocol* drop down must be set to Dropbox. Enter the same *URL* and *Password* details as used within Manager.

All other fields can be left blank.

### 2.2.3 Advanced Usage

The approach described above effectively allows access to the radio station's own Dropbox site to all remote users via OAS Payout (they don't have access via any other mechanism). However, it is possible to adopt more exotic configurations such as sharing dedicated portions of your Dropbox folders with other individual's Dropbox accounts. This then allows a more finely grained approach in terms of controlling (and revoking) access to your account. It does however require them to go through the process of allowing the *Media Sync Application* access to their account. Consult the Dropbox website for more details.

## 2.3 Local File System

This solution allows for files to be shared via a local file system – for example somewhere on your C: drive, a network drive, removable drive - essentially anything that shows up in Windows Explorer.

Whilst not immediately obvious, there are a few scenarios where this solution can be of use.

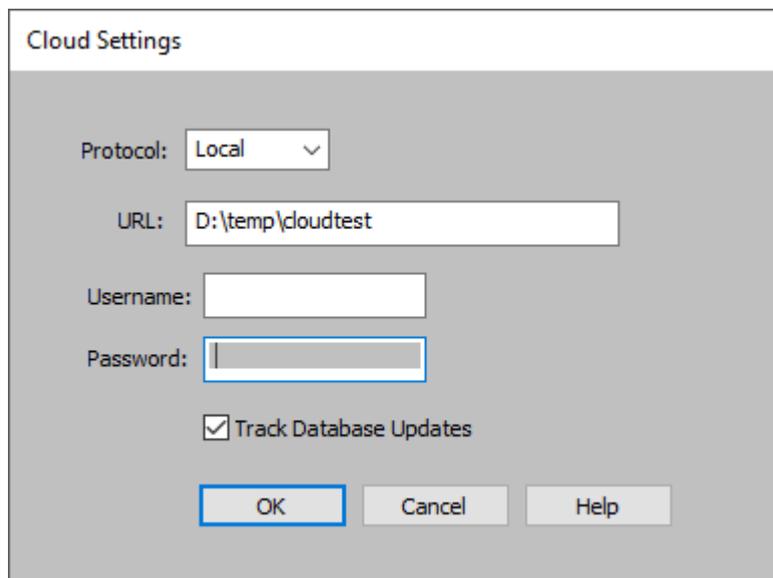
The first is that if you don't want to go to the hassle of setting up or maintaining a storage location in the cloud, you can instead opt to use some sort of removable storage eg. USB stick or portable hard drive. In this scenario, you use Manager to upload directly to the drive, which then needs to be physically transported to your remote presenters where they download content from it via Express. If you only have a few remote presenters (and are in the local area), this then may provide a very simple means of sharing your media.

Another potential use is if the station provides a VPN connection to its users, this approach may then be of use as well.

Finally, it's also useful if you just want to try out the system locally via say a shared network drive without going to the hassle of needing to set up a cloud-based solution first.

### 2.3.1 Playout Manager Local File System Configuration

This is accomplished from the *Settings, Cloud* menu within Manager.



The screenshot shows a dialog box titled "Cloud Settings". It has the following fields and controls:

- Protocol:** A dropdown menu with "Local" selected.
- URL:** A text input field containing "D:\temp\cloudtest".
- Username:** An empty text input field.
- Password:** An empty text input field.
- Track Database Updates:** A checked checkbox.
- Buttons:** "OK", "Cancel", and "Help" buttons at the bottom.

From the *Protocol* drop down list, select *Local*.

In the URL, enter the name of the local folder where you want to store your shared media content. Leave the *Username* and *Password* boxes blank then click OK.

### 2.3.2 Playout Express Local File System Configuration

All Playout Express users participating in the media sharing need to be provided with the same *URL* (Dropbox media folder) and access token as is entered within Manager.

Express also has a *Settings, Cloud* menu where this information is stored:

Cloud Settings

Protocol: Local ▾

URL: D:\temp\cloudtest

Username:

Password:

Cache:

Live Content:

The *Protocol* drop down must be set to *Local*.

In the URL, enter the name of the local folder (which may be different from that used with Manager) where you want to store your shared media content. Leave the *Username* and *Password* boxes blank then click OK.

### 3 DATABASE CONTENT SHARING

This section provides more detail on sharing the entire database (and media) with remote users. This contains important information that you should read and understand prior to doing this.

#### 3.1 Limitations of database sharing

Database sharing is **only** supported using the MS-Access (the default) or SQLite database solutions. It is not possible to use this approach with MySQL databases.

#### 3.2 Initial Setup

First start out by creating a complete copy of both your audio and database on the remote system. Ideally keep the folder structure where the audio content is located identical between the two systems – for example if everything on the central studio is located under C:\Music, do the same on your remote system. You need to ensure that no new content is being added to the system during this process.

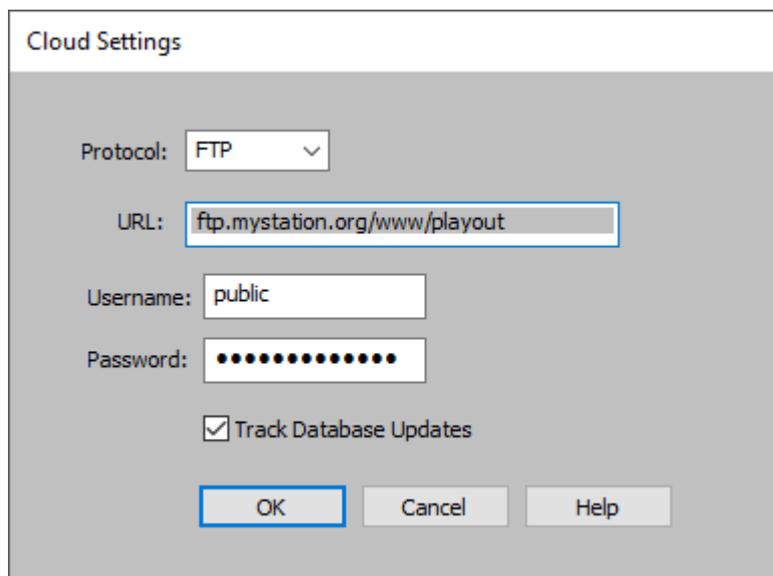
This many often not be possible, particularly if the content is located on a network drive so this needs to be compensated for. There are a number of approaches available under Windows to create/re-assign drive letters and Playout also provide the *Virtual Path Mapping* capability (which is covered in the help guides) which can also assist with this. What you should **not** do is use Manager's *Path Change* option to modify the database content itself to point to the new locations since this information will be lost when you later synchronize an updated database from the cloud.

Remember you need to be using Playout Express on the remote system and one of the first things to do is launch Express on the remote system, ensure it is pointing at the correct database and that the audio is accessible (ie. Playable).

Next you need to ensure that that the *Cloud Settings* (see section 2) in Express are correct – this is particularly pertinent if using the FTP/HTTP solution since this information is different between Manager at the central studio and remote users.

At which point, it's worth doing a test database synchronize to ensure things are working.

In Manager (connected to the central database), first select *Settings, Cloud* and ensure that the *Track Database Updates* option is checked.



Cloud Settings

Protocol: FTP

URL: ftp.mystation.org/www/playout

Username: public

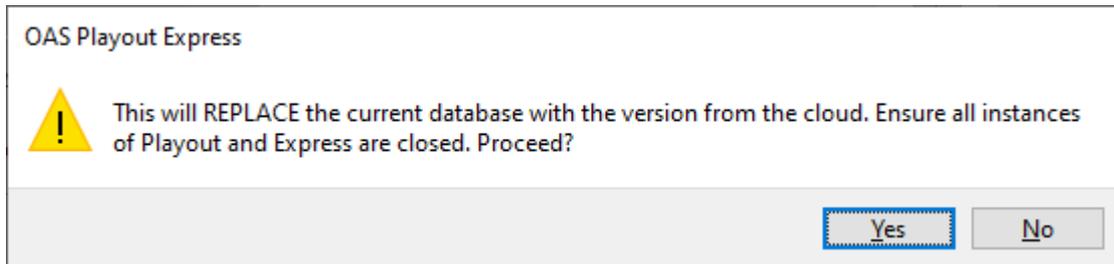
Password: ●●●●●●●●●●●●

Track Database Updates

OK Cancel Help

Then from the main menu, select *Tools, Upload Database to the Cloud*.

In Express (connected to the remote database), select *Tools, Synchronize with Cloud*. From the list of available Packages, select *Database* and click OK. You will need to confirm the update since this process will be replacing your current database with a new one (this is covered further in 3.4).



If all goes well, there should be no obvious change since nothing has changed in the database however it does serve to prove everything is working as expected.

### 3.2.1 Using older versions of Payout

When the *Track Database Updates* option (see 3.2) is enabled, Payout stores the information in a dedicated playlist which is normally hidden. However, if you are using a version of Payout which pre-dates the media sharing capability (ie. older than v4.1) this playlist, named **CloudDbUpdates**, will be visible in both Payout and Payout Manager. It is therefore important that for the database tracking to work correctly, you do not modify this playlist in any way.

## 3.3 Day to Day Operation

Essentially as outlined in section 1.4, periodically (or after you upload something that a remote presenter particularly needs), within Manager the *Tools, Upload Database to the Cloud* menu should be used to push the latest database updates to the cloud. It's really down the individual stations as to how often this needs to be done.

Equally, the presenter(s) using the remote system should likewise use the *Tools, Synchronize with Cloud* menu item periodically in Express to see if there is a new *Database Package* available and then perform an update to ensure they are kept in sync with the central studio.

## 3.4 Synchronization Process

When Payout Express performs a database synchronization, the local database is **replaced** by the one from the cloud. Any modifications made by the remote presenter (for example adding new audio of their own) will be lost. It is important that the remote presenters are made aware of this. If there is a need to preserve additional content, the presenter should not be using the database synchronization process, instead they should be adding the necessary media subsets they require as described in 1.2.2.

The system will attempt to copy any additional audio downloaded as part of the synchronization process to the same location on the remote file system as the central studio however it will honour any *Virtual Path Mappings* as part of that process (see 3.2). For example, if the originating audio file came from *X:\Music\Newfile.mp3* and you have a path mapping from *X:\Music* to *C:\Music* created during the initial setup, it will be correctly copied to *C:\Music\Newfile.mp3*.

Of course, if the radio station adds in a completely new path (*Y:\Music* for example) and no mapping is in place for this (and *Y:\Music* does not exist on the remote system) the sync will fail.

### 3.5 Database Audio Packages

In addition to uploading the Playout database to the cloud, the system also needs to upload copies of any new audio that has been added since the last upload.

Playout Manager accomplishes this each time the *Update* button is pressed on the *Music/Jingle Import* tabs by adding the newly added content to a special (hidden) playlist. However, this **only** occurs if the *Track Database Updates* option has been checked as described in the preceding, section 3.2. If you have not enabled this, when you press the *Tools, Upload Database to the Cloud* menu, you will get a warning that the upload may be missing the necessary audio files in order to operate correctly on the remote system.

When the synchronization occurs, in addition to the *Database Package*, any files that are referenced from the hidden playlist are automatically added to an additional *Database Audio* package which is then uploaded as well. The contents of this playlist are then cleared, ready for future updates.

*Database Audio* packages do not appear in the list of packages that appear to the remote presenter within Playout Express. When they perform a *Database* package sync, those packages are automatically downloaded along with the modified database. They are then unpacked and copied to the correct locations on the file system as described in section 3.5.

It is important to note that there is only ever ONE *Database Package* present in the cloud, representing the latest database that has been uploaded by Manager. However, there can be MANY *Database Audio* packages present in the cloud because each one represents an incremental update to the latest database.

For example, lets assume we have two remote systems individually managed by presenter 'A' and presenter 'B'.

At the radio station, we have added some tracks to the database then uploaded it to the cloud on 3<sup>rd</sup> April 2022. In the cloud we now have:

- A *Database Package* modified on 03/04/22
- A *Database Audio Package* modified on 03/04/22

A few days later, presenter 'A' does a *Database* synchronization. This will download both those packages and bring his system up to date.

We go on to add some new tracks over the following week, then do another upload on 10<sup>th</sup> April. Now we have:

- A *Database Package* modified on 10/04/22 (replacing the previous one)
- A *Database Audio Package* modified on 10/04/22
- A *Database Audio Package* modified on 03/04/22

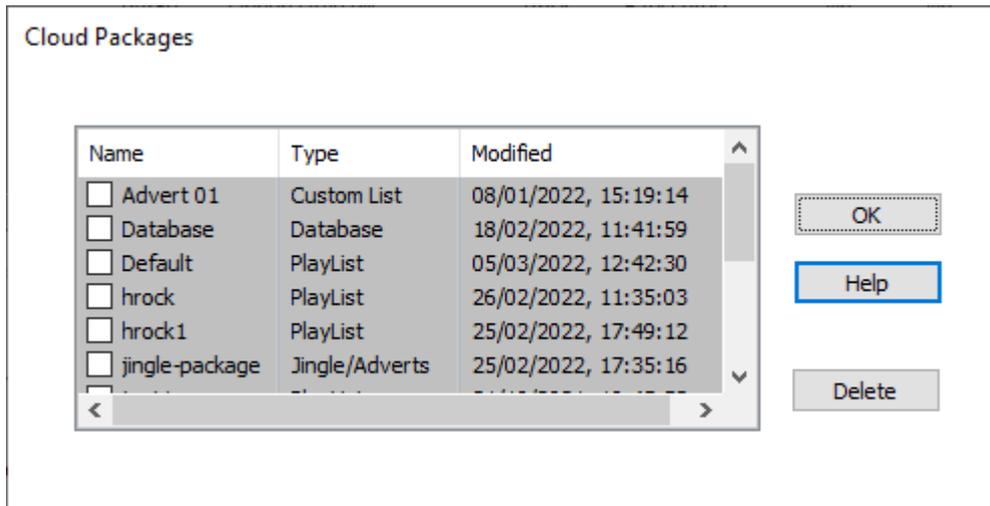
Presenter 'A' does another sync. This will download the latest *Database* package but only the *Database Audio Package* from 10/04/22 – he's already downloaded the one from the 3<sup>rd</sup> the week before. He's now up to date.

Now Presenter 'B' does his sync. Since he's not done one in a while, his download will retrieve all 3 packages – that's because the *Database Audio* package from 10/04/22 ONLY contains the updates made between the 03/04/22 and 10/04/22 – he needs both to be fully up to date.

Back at the central studio, we don't know the status of what our remote presenters have downloaded at any given time hence it's not possible to safely ever delete the *Database Audio* packages automatically. Over time then, these packages will start to build up and consume

ever increasing amounts of cloud storage. Therefore, it's necessary to periodically manually delete them once you are sure that all the remote systems have synchronized up to a certain point.

This can be done within *Manager* via the *Tools, Package Maintenance* menu



## 4 METADATA SHARING

Metadata sharing is an advanced mode of media sharing which provides the ability for remote users to access station content “on demand”, much like a streaming media service such as Spotify. In effect it allows them access to the entire audio content (much like a database share) but without needing copies of every single file held at the station.

### 4.1 How it works

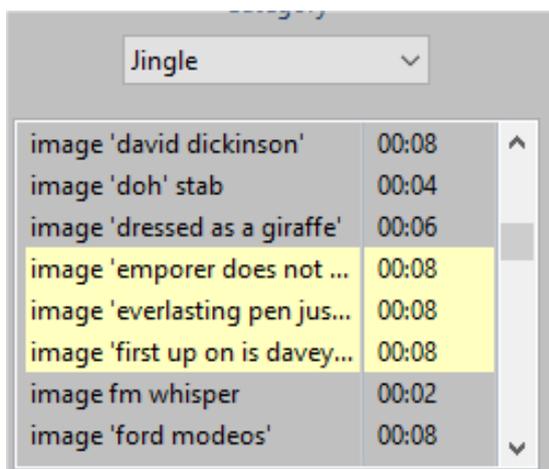
The first step in the process is at the radio station where Playout Manager is used to upload the metadata to the cloud (via the *Tools, Upload Metadata to the Cloud* menu item). This takes a snapshot of all of the information held about the audio files in the Playout database, that includes music and jingle/advert content. It does **not** include Playlists, or Custom Lists. It also does not include the audio files themselves. This information is then uploaded to the cloud. If an existing *Metadata* package already exists, it is replaced ie. There is only ever one *Metadata* package in the cloud, representing the latest information from the radio station.

Remote presenters can then download the package in the usual manner via Playout Express (see section 1.4 for more information about the general workflow). When this step is performed, the user’s local database is then updated to include information about the entirety of the audio content available at the central radio station.

Within Playout (and Express), content from Metadata packages where the audio files are not yet present are shown in yellow. This can be seen from the main audio selector dialog when the presenter presses a *Load* button on a main player:



And likewise in the Jingle Selector panel.



When one of these tracks is then loaded into a panel, a request is sent to the radio station to download the file. Whilst this is occurring the border of the panel will blink until the file is available. It can then be played in the normal fashion.

It's therefore important to note that it's not possible to instantly play a track of this nature, you need to wait for it to download first. This differs from streaming services such as Spotify which allow instantaneous playback. Aside from the fact that it is not possible to stream all of the file formats which Playout supports, this behaviour ensures uninterrupted playback of the file rather than run the risk of drop outs or stalls due to an intermittent Internet connection. As such, presenters need to be aware of this limitation and allow for cueing up the track slightly in advance of when they plan to play it.

## 4.2 Audio ("Live") Content Sharing

In order for the capability described in the preceding section, it's clear that the radio station needs to provide some mechanism for accessing its audio content via the Internet. It's also necessary for the file system layout (directories and filenames) that are held in the Playout database to match how they are laid out when requested by the remote system running Playout. For example, given an audio file:

G:\music\sheryl\_crow\sheryl\_crow\free\_man.mp3

If the content is shared on a web server hosted at: <https://www.mystation.org/content> and Playout is requested to play this file, it will attempt to download it at:

[https://www.mystation.org/content/music/sheryl\\_crow/sheryl\\_crow/free\\_man.mp3](https://www.mystation.org/content/music/sheryl_crow/sheryl_crow/free_man.mp3)

Playout supports downloading audio content via any of the protocols described in section 2. The cloud platform configuration may indeed be identical to that used to hold the packages themselves but it can be different if required.

This poses a number of technical challenges which need to be overcome.

Hosting the files on an external server carries the overhead of paying for what is likely to be many gigabytes of storage, the limited storage space provided by say a free Dropbox account is most likely to be insufficient to hold anything but a very small amount of a radio station's content. There is also the challenge of keeping them in-sync with those held locally at the station.

Self-hosting the content directly at the station (typically via a web server application) provides a much more cost-effective approach to sharing the content. Additionally, if the web server is sharing the exact same content as used by the station, this ensures everything will always be up to date. However, this then puts the technical onus on the station to setup, secure and maintain such a system which is beyond the scope of this guide.

As such, this needs to be addressed before making use of the metadata sharing capability.

### 4.3 Live Content Cloud Settings

Once the audio content hosting has been set up by the station (as outlined in the previous section), this information needs to be communicated to the remote presenters which they can then enter into Express – in much the same way as the main cloud settings information.

This is defined (in Express) in the *Cloud, Settings* dialog in the *Live Content* section.

The screenshot shows a dialog box titled "Cloud Settings". It is divided into two main sections. The top section, "Cloud Settings", contains the following fields: "Protocol" (a dropdown menu set to "http"), "URL" (a text box containing "monolith/public/playout"), "Username" (an empty text box), "Password" (an empty text box), and "Cache" (a text box containing "D:\temp\CloudCac" and a "Browse" button). The bottom section, "Live Content", contains: "Protocol" (a dropdown menu set to "http"), "URL" (a text box containing "monolith/hrock/audio"), "Username" (an empty text box), and "Password" (an empty text box). A blue arrow points from the "Cache" field in the top section to the "Protocol" field in the bottom section. At the bottom of the dialog are three buttons: "OK", "Cancel", and "Help".

This section is near enough identical to the main Cloud Settings information discussed in section 2 with dedicated *Protocol*, *URL*, *username* and *passwords* entries except in this case they pertain to where the audio files will be downloaded from.

### 4.4 Metadata Updates

For radio stations with large music databases, it can take some time for Manager to generate the Metadata package and conversely Express to process it. To mitigate this, you can generate *Metadata Update* packages which only contain information that has been added since the last update. This operates in a similar manner when sharing database updates as described in section 3.5. Each time new content is committed by pressing the *Update* button on the *Music/Jingle Import* tabs, information about it is added to a special (hidden) playlist. This list is then later used to generate the Metadata Update package.

In order to make use of Metadata Update packages, you first need to (in Manager) activate the *Settings, Cloud* dialog and ensure that the *Track Database Updates* option is checked.

Cloud Settings

Protocol: FTP

URL: ftp.mystation.org/www/playout

Username: public

Password: ●●●●●●●●●●●●

Track Database Updates

OK Cancel Help

At this point, you should then upload a new Metadata package to the cloud (via the *Tools, Upload Metadata to the Cloud*). This then gives a snapshot of the current database.

Going forward, as new audio content is added to the database, it will be tracked internally. At suitable intervals (typically governed by how often you add content and want to make it available to remote users) use the *Tools, Upload Metadata Update to the Cloud* option to make available an update package that contains information only about the newly added content.

Periodically it is still worthwhile generating a new Metadata package just to make a complete updated baseline available to everyone. When this happens, all of the Metadata Update packages are automatically deleted from the cloud.

#### 4.4.1 Express handling of Metadata Updates

The handling of *Metadata* and *Metadata Update* packages by Playout Express is designed to be as straightforward as possible.

If there is a newly available Metadata and one or more Metadata Update packages available to download, the user is presented with a single *Metadata* package in the *Cloud Packages* dialog (see 1.4). If selected, Express will then automatically download the Metadata package AND all the update packages, then apply the changes in one operation.

In the absence of any new Metadata package but one or more Metadata Update packages, the user is presented with a single *Metadata Update* package. In a similar manner, Express will then automatically download ALL of the available Metadata Update packages and apply the changes in one operation.

If need be, this behaviour can be overridden by checking the *Show previously downloaded packages* option on the *Cloud Packages* dialog. This will then show all the individual packages which can then be selected and downloaded individually.

## 5 USING MEDIA CONTENT WITH THIRD PARTY PLAYOUT SYSTEMS

It is possible to download (and then import) the content of some of the media packages into either Playout Manager or other 3<sup>rd</sup> party playout software. This is accomplished by the freely available *OAS Playout Media Sync* application.

### 5.1 Packages Supported by Media Sync

The following table provides a summary of the package types that can be downloaded by Media Sync and then imported into other playout systems (including via OAS Playout Manager).

Package Type	Importable via OAS Playout Manager	Importable via third party playout software
Custom List	Yes <sup>1</sup>	Yes <sup>1</sup>
PlayList	Yes	Yes
Jingle/Adverts	Yes	Yes
Music	Yes	Yes
Database	Yes	No
Metadata	No	No
Metadata Update	No	No

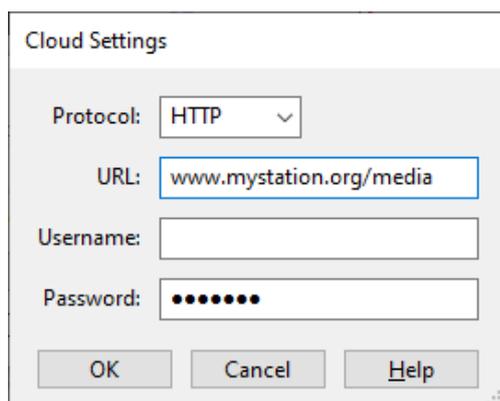
For more information on the package types see 1.3.1.

<sup>1</sup> It's only possible to import the audio content of a custom list not the ordering information.

### 5.2 OAS Playout Media Sync

OAS Playout Media Sync essentially provides the capability to download and extract packages from the cloud. It is then up to you to manually import the content into your playout system (this is the part that Playout Express performs automatically).

Once installed, activate the *Settings, Cloud* menu option.



This provides a dialog box that is identical to that used in Playout Express which you can use to enter the necessary cloud information as described in section 2.

## **5.3 Workflow (excluding Database packages)**

The process for downloading and importing the supported cloud packages is broadly the same, this section covers the basic steps.

### **5.3.1 Preparing Media for Upload**

Part of the process that Payout Manager performs when uploading content to the cloud is to provide a copy of all of the metadata held about the audio content that is held in the database. When Payout Express downloads the package, it uses this to update its own local database.

This is however, a unique capability provided OAS Payout, when it comes to interfacing with third party payout system, the metadata used is read from the media files themselves. This is what happens when Manager imports audio into the database – the initial set of information comes from the metadata embedded in the audio file. However, it's highly likely that this will have been altered – either manually by editing information about the track – title, artist etc. or automatically by the system eg. Setting cue points, normalization levels etc. Therefore, it is highly advisable that you update the metadata held in the audio files with this information prior to uploading them to the cloud. This can be easily done within Manager – see the section in the help under *Metadata*.

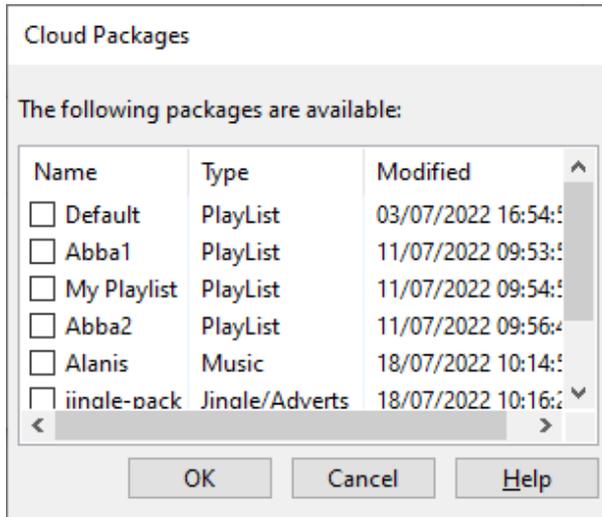
It should also be apparent on reading the aforementioned help section, that the different types of media formats supported by Payout (.mp3, .wav etc.) store metadata differently and not all of the data held in the Payout database can be included in all of the file types. This means when it comes to importing them into the 3<sup>rd</sup> party payout system, some of that (most likely less used) metadata will not be available. As it currently stands, the only file format that Manager can currently write all of the available metadata into is MP3. Even then, some of the information is written into custom tags then only Manager can understand. However, what this does mean is that if your "third party payout system" happens to be OAS Payout and you store all of your audio as MP3, then provided you update the metadata tags, ALL of the information held in the original database will be recreated in the local one when you re-import the audio.

### **5.3.2 Playlist Content**

Payout Manager can include a mixture of music and jingle/advert content into a playlist. However once downloaded by Media Sync, it's not possible to easily differentiate between the two media types because they will all be extracted into the same folder. This is pertinent because (in the case of Payout Manager) you would normally import music and jingle/advert content separately. Therefore, if you need to handle these types of playlists, you need to be more selective when it comes to importing the audio (see 5.3.4) or accept the fact that you will end up with jingle content included in the music section of the database.

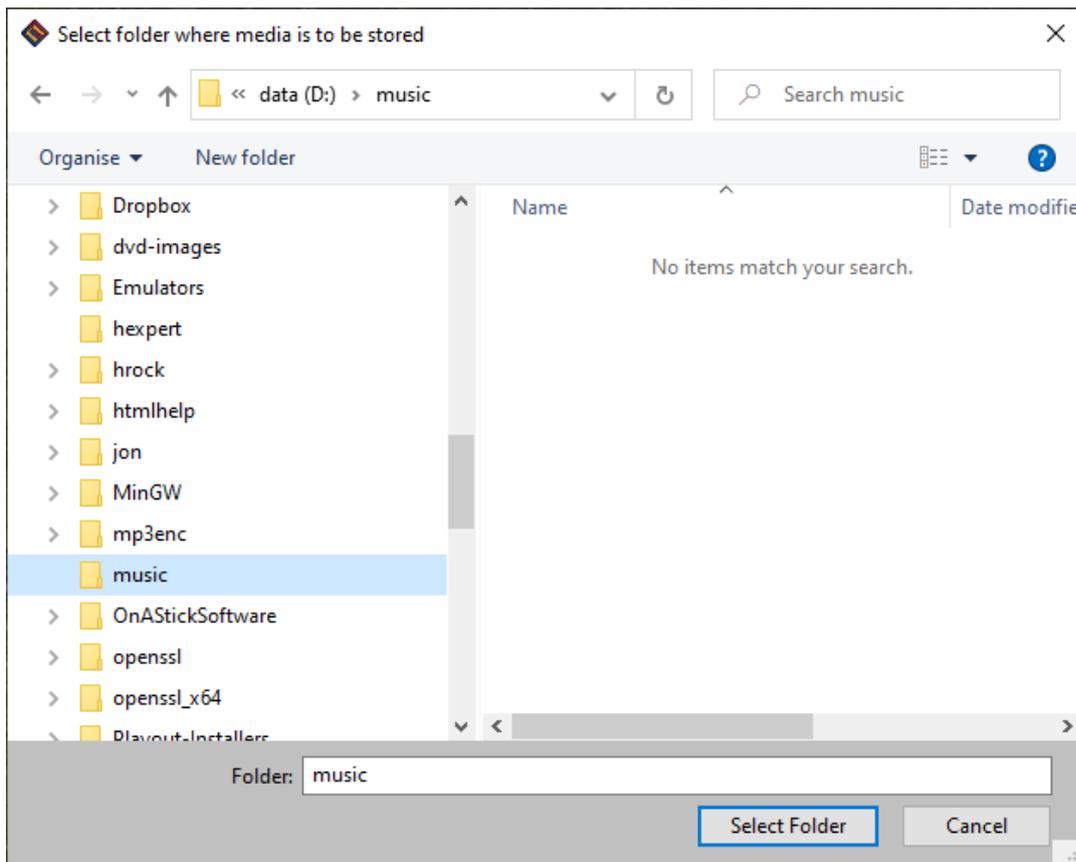
### 5.3.3 Use OAS Playout Media Sync to download the Package(s)

Provided the cloud information has been entered into Media Sync (see 5.2), it's then just a case of, pressing the *Sync* button on the main dialog. This will now present you with a list of available cloud packages that can be downloaded.



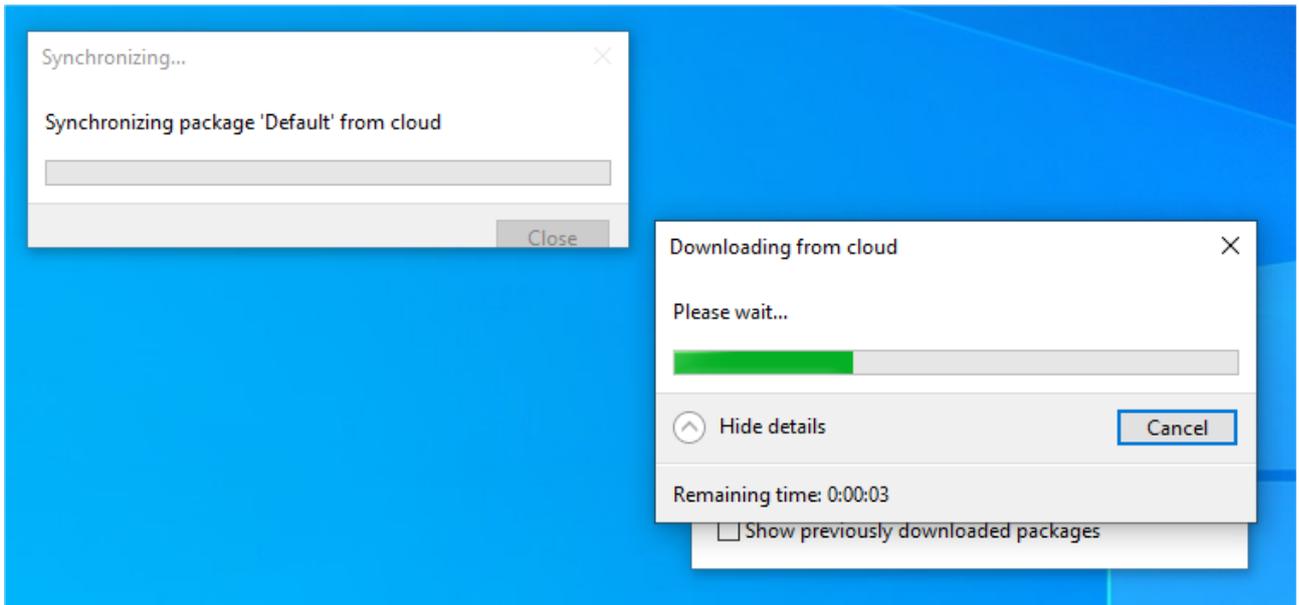
(This mimics the behaviour of Playout Express via it's *Tools, Synchronise with Cloud* option)

At which point it is then possible to select and download the required package(s). Once a package has been downloaded, you will be prompted as to where you want to store the contents.

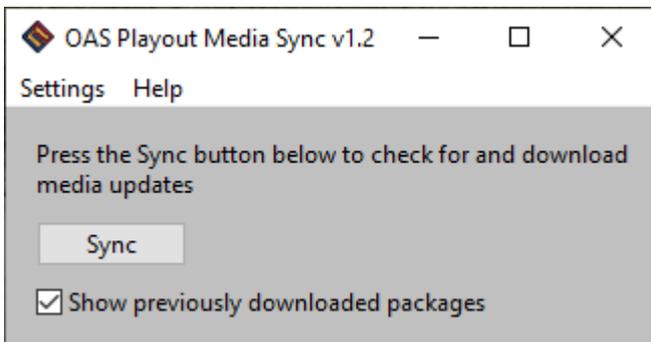


The contents being (as a minimum) the audio files from the package. Hence you will want to navigate to a location, typically in the same area where you hold all of your existing media. For

this example, the *D:\Music* folder is being used as the folder location. Once you confirm the folder location, the Media Sync tool will download and extract the contents to this location.

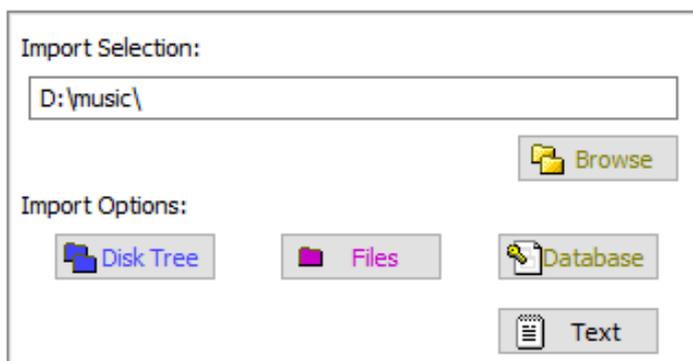


Like *Playout Express*, *Media Sync* tracks which packages have been downloaded and only presents you with those that have not yet been downloaded (or have been updated). If you need to download again, check the *Show previously downloaded packages* box prior to pressing the *Sync* button on the main dialog.



### 5.3.4 Importing audio into the playout system

Once the package has been downloaded, the next step is to import the audio into your playout system in the usual manner. In the case of *Playout Manager*, select the *Music Import* (or *Jingle/Misc Import* if the package holds jingle or advert content) tab, then in the *Import Selection* panel, use the *Browse* button to navigate to the same folder you gave to *Media Sync*.



Now press the *Disk Tree* button to load the audio files.

Title	Artist	Album	Genre	Import Status
<input checked="" type="checkbox"/> 2012 (It Ain't The End)	Jay Sean feat Nicki Minaj	Now That's Wh...	Pop	
<input checked="" type="checkbox"/> Airplanes	B o B feat Hayley Williams	Now That's Wh...	Pop	
<input checked="" type="checkbox"/> All Time Low	The Wanted	Now That's Wh...	Pop	
<input checked="" type="checkbox"/> Ambitions	Loe McElderry	Now That's Wh...	Pop	
<input checked="" type="checkbox"/> Bang Bang Bang	Mark Ronson & The Busin...	Now That's Wh...	Pop	
<input checked="" type="checkbox"/> Barbra Streisand	Duck Sauce	Now That's Wh...	Pop	
<input checked="" type="checkbox"/> Beautiful Monster	Ne-Yo	Now That's Wh...	Pop	
<input checked="" type="checkbox"/> Best Behaviour	N-Dubz	Now That's Wh...	Pop	
<input checked="" type="checkbox"/> Billionaire	Travie McCoy feat Bruno ...	Now That's Wh...	Pop	
<input checked="" type="checkbox"/> Broken Arrow	Pixie Lott	Now That's Wh...	Pop	
<input checked="" type="checkbox"/> Cave	Mumford & Sons	Now That's Wh...	Pop	
<input checked="" type="checkbox"/> Club Can't Handle Me	Flo Rida feat. David Guetta	Now That's Wh...	Pop	
<input checked="" type="checkbox"/> Cooler Than Me	Mike Posner	Now That's Wh...	Pop	
<input checked="" type="checkbox"/> Crossfire	Brandon Flowers	Now That's Wh...	Pop	

Title:  File:

Finally press, the *Update* button to commit the audio files to the database.

### 5.3.5 Importing Playlist Content

In addition to the audio files themselves, *Playlist* packages include an additional file named *playlist.m3u8* which will have been extracted into the same folder when Media Sync downloaded the package. This provides the ordering of the playlist in a standard format which should be importable by most 3<sup>rd</sup> party playout systems.

In the case of Playout Manager, this is accomplished via the *Playlist Management* tab. First, create a new playlist by entering it into the *Current PlayList* box and pressing Return.

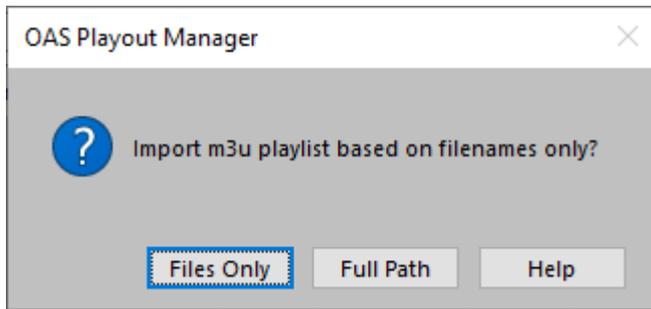
Current PlayList

Search:   by:

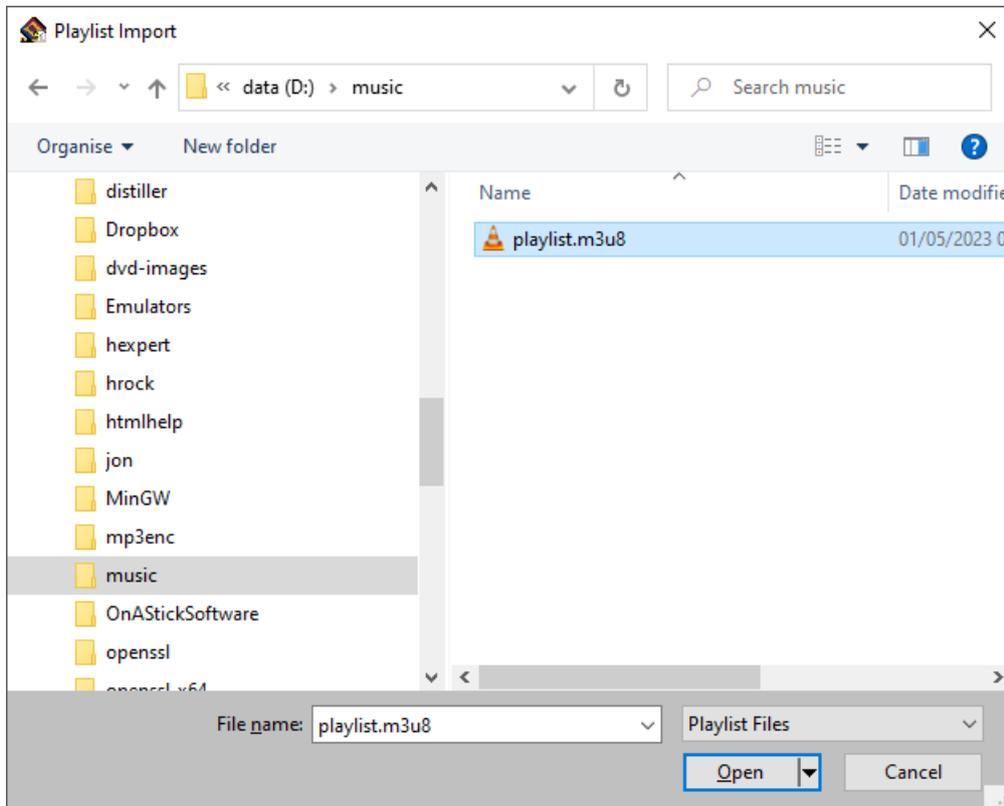
In the *Importers* panel, press the *m3u List* button.

Importers

When prompted *Import m3u playlist based on filenames only?* Choose *Files Only*.



Navigate to the same folder where the audio files were extracted to from Media Sync and select the *playlist.m3u8* file.



Click the *Open* button. After a short period of activity, Playout Manager will confirm the successful import and show the new playlist in the main dialog.

Music Edit Music Import Jingle/Misc Edit Jingle/Misc Import Playlist Management Logging Web Consoles

Title:  Artist:

Title	Artist
-	Snow Patrol
Trane Refrain	John O'Neil
(Are You Sure?) It's Shor...	Terry Garoghan
(Boy)I Need You	Mariah Carey ft C
(Feels Like) Heaven	Fiction Factory
(I Can't Help) Falling In Lo...	UB40
(I Could Never) Give You Up	Roxette
(I Just) Died In Your Arms...	Cutting Crew
(I Wanna) Make Love To ...	Hanne Boel
(Is This The Way To) Ama...	tony christie
(She Was a) Hotel Detective	They Might Be Gia

Current PlayList: Now 77

Search:

	Title	Artist					
31	Bang Bang Bang	Mark Ronson & The...	03:54	Pop	2010	0	Now T
32	Crossfire	Brandon Flowers	04:16	Pop	2010	0	Now T
33	Cave	Mumford & Sons	03:36	Pop	2010	0	Now T
34	Prayin'	Plan B	03:42	Pop	2010	0	Now T
35	2012 (It Ain't The E...	Jay Sean feat Nicki ...	03:42	Pop	2010	0	Now T
36	Best Behaviour	N-Dubz	03:31	Pop	2010	0	Now T
37	What If	Jason Derulo	03:22	Pop	2010	0	Now T
38	Broken Arrow	Pixie Lott	03:44	Pop	2010	0	Now T
39	Ambitions	Loe McElderry	02:55	Pop	2010	0	Now T
40	Party Girl	Mc Fly	03:12	Pop	2010	0	Now T
41	Katy On A Mission	Katy B	04:13	Pop	2010	0	Now T

OK Save

Playlist import results

41 items added  
41 items processed

Up Down Delete Segue Edit Clear List

Importers: Database m3u List Exports: HTML m3u Lis

Press *Update* to save the changes to the database.

## 5.4 Database Import/Update

It's possible to use Media Sync to update the Playout database (and optionally any audio that has been added since the last update) in much the same manner as that described in section 3. This then offers the same database update capability to users of Playout Manager as well as Playout Express.

Before persuing this approach, you should first read and understand section 3 in it's entirety. In particular note that the starting point for database sharing must be as per that described in 3.2.

### 5.4.1 Audio Folder Locations

As noted in 3.5, when you download the audio content associated with a database update, Playout Express ensures those files get copied to the correct locations (honoring any *Virtual Path Mappings* that may have been set). However, when you use Media Sync, it is down to you to ensure you extract them into the correct folder (when prompted by the tool).

The database update package maintains the original directory layout of the audio file content but does not include the drive letter (eg. C: ).

For example, if all of your audio in the central radio station is located under *D:\Music* and you are mirroring this remotely (no virtual paths), you would select the **D:\** as the location the media location. It's important **not to select the folder itself** – D:\Music as this would then result in a folder structure being created that would look like D:\Music\Music

If you're using Virtual Paths, select the folder as specified in the *To Destination Path* box in the settings, in the example below it would be W:\Hrock

Virtual Pathnames

Virtual Path 1  
Virtual Path 1  
Virtual Path 2  
Virtual Path 3  
Virtual Path 4  
Virtual Path 5  
Virtual Path 6

Enable Mapping     Reversionary Only

Map Source Path:  
e:\    Browse

To Destination Path:  
w:\hrock    Browse

OK    Cancel    Help

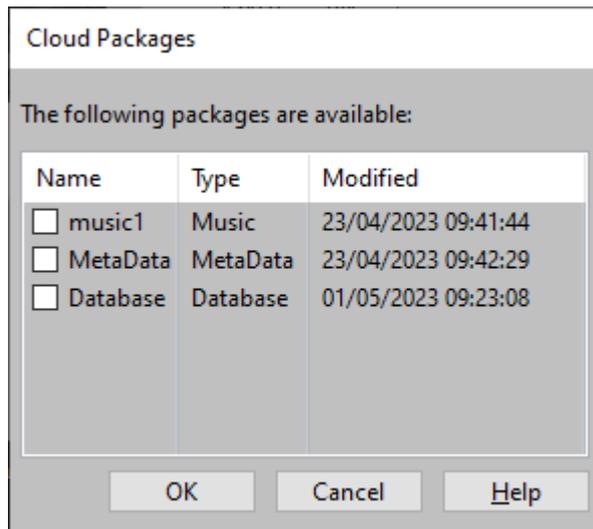
It is hopefully apparent from the above that things become quite complicated if you have audio scattered across multiple drives or network paths in the central studio – for example using a mixture of files on D:\Music and E:\Music. When the update package is then extracted, it's not going to be possible to determine the correct location.

Ideally this should be best avoided if at all possible. If not, then the only way this can be managed in a sensible manner is to extract everything into a single drive on the remote side (for example D:\Music) and apply a virtual path mapping to map E: to D:. The only problem this poses, is the unlikely event of having identically named files on the original two drives but different content.

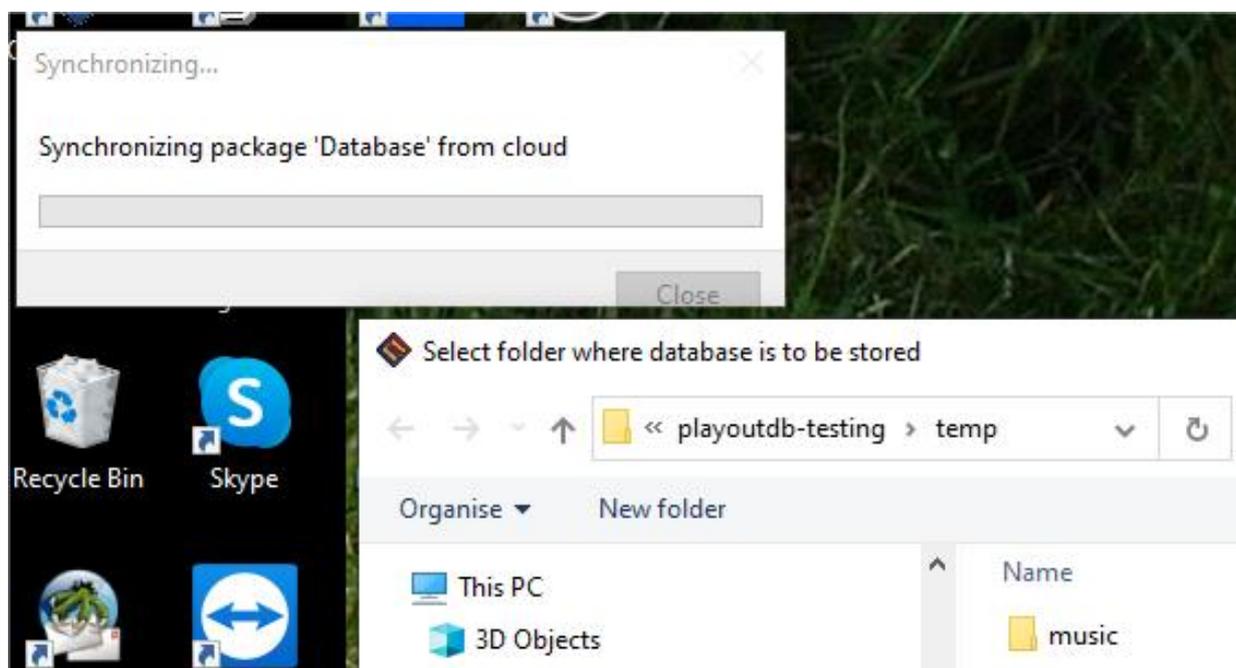
### 5.4.2 Workflow

Prior to performing a database update, it is recommended you first backup your local copy (within Manager via the *Tools, Backup Database* menu). You also need to shut down all instances of Playout & Manager in order to update the database in this manner.

Provided at least one database update has been made by the central Playout Manager application, it should show up in the list of packages within Media Sync as a *Database* package.

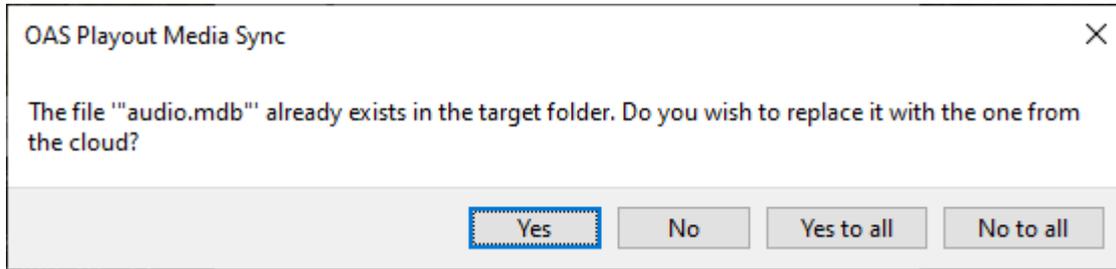


Note that as described in 3.5, a *Database* package may include one or more *Database Audio* packages. Media Sync will automatically download any of these at the same time. As a result, when performing the download you may be prompted for folder locations multiple times. The first time you perform a database update pay particular attention to the information being presented in the dialogs in order to distinguish between where to store the database vs. the audio files. The *Synchronizing...* dialog shows at any one time which package type is being extracted and the title of the folder selection box will also indicate this.



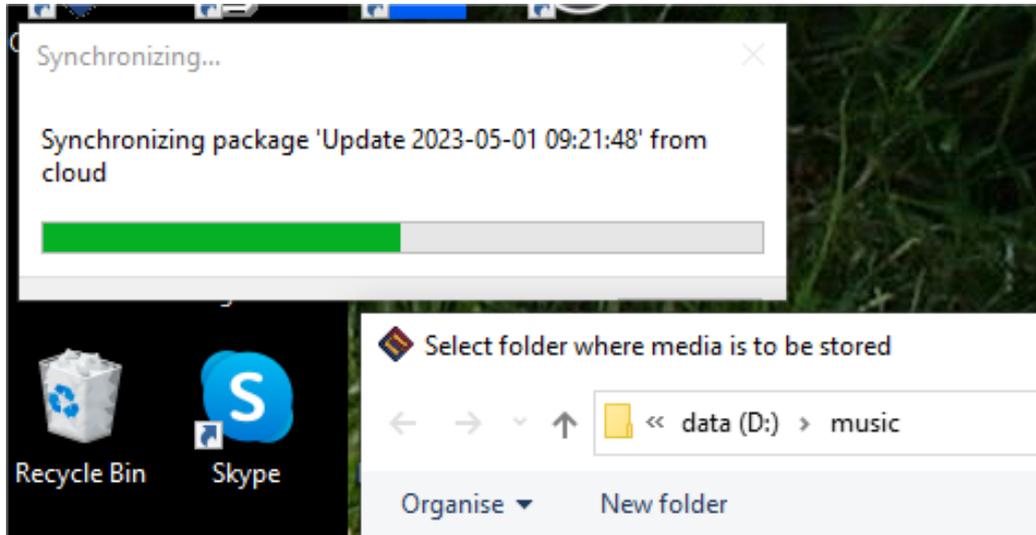
The above shows the prompt for the Database package itself, the folder to select therefore is where the Playout Database is located.

A good sign that you have the correct location is that Media Sync will prompt that the file already exists.



Click *Yes* or *Yes to all* to allow the database to be updated.

Here is what a *Database Audio* update will look like.



In this instance, you need to select the root folder (see 5.4.1) where you normally store your audio files.

Media Sync will save the database and media locations such that on subsequent updates (unless you change anything), the folders presented for these will be correct.

The next time you start Playout or Manager, it should be using the new database and any newly added audio will be available for use.

## **6 CONTACT US**

Drop an email with any questions or queries to:

<mailto:playout@onasticksoftware.co.uk>

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