Mac YouTube-dl Video Downloader

Version 1.17 – 16 March 2021

MacYTDL – Mac YouTube-dl video downloader

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What MacYTDL does

MacYTDL is a utility which downloads videos using the *youtube-dl* video downloader. *youtube-dl* is able to download videos from a great many web sites.

Features:

- Download individual videos and playlists.

- Works with YouTube and many other sites including ITV and all Australian TV catchup sites.

- Can choose the download file format from a range of video and audio formats.

- Can save URLs for later download (in a "batch" file).

- Optionally download and/or embed subtitles in chosen format (from six) and language.

- Optionally download a text description of the video.

- Optionally download or extract separate audio file in a range of formats.

- Can download many videos at one time i.e. in parallel.

- Can download multiple videos in succession in one process i.e. in series.

- Can stop downloads.

- Option to use a proxy URL.

- Download speed can be set for each download.

- Is localised – currently available in Italian (thanks to "bovirus"), Spanish (thanks to michel-GH) and German (thanks to Google Translate).

- Options to embed thumbnail images, subtitles and metadata in downloaded videos.

- An optional macOS Service which sends a URL in the currect text selection, the Clipboard or a web browser tab to MacYTDL.

  - Note: Assistive Access must be granted to the current app for this to work. See below.

- All components downloaded and installed by MacYTDL, which can be controlled by the user.

  - Can check for updates to MacYTDL and components.

  - *youtube-dl* can be checked for updates automatically on startup.

- A separate log file is saved for each download enabling problem solving if a download fails.

- Has a built-in uninstaller which moves all components to Trash.

System requirements

MacYTDL will work on any Apple Mac running OS X 10.10 or later.

MacYTDL is free

MacYTDL is a retirement project and will always be free.

How to install MacYTDL

Download and open the DMG file. Drag the MacYTDL applet to any location you prefer. Placing it in the *Applications* folder will make it available for all user accounts. It's best to delete old copies of MacYTDL – just move old copies to the Trash. Please do not change the name of MacYTDL – the code currently behaves poorly if the name is changed especially if a space character is added.
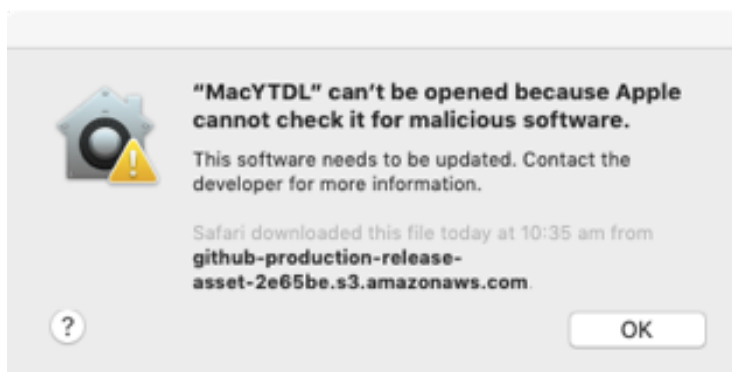
The applet is code signed and notarized so, you may see messages when you first run MacYTDL. The range of messages varies with the version of macOS being used. In macOS Mojave and Catalina this message is shown when MacYTDL is first run:
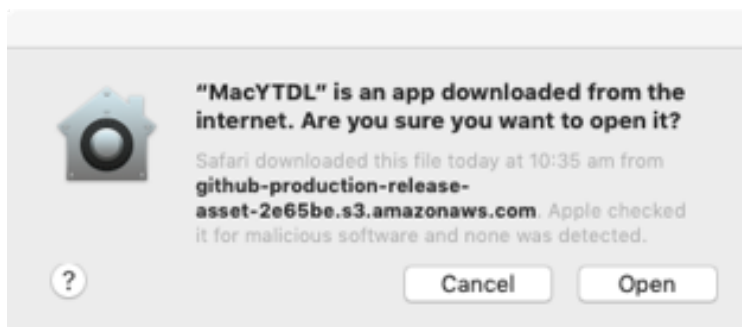
Click on "Open".

Detail on code signing and notarization is [available below](#).

If you see this message instead …

… you will need to change your Gatekeeper settings to allow applications from "identified developers". For information on Gatekeeper and how to change settings visit the Apple web site at: https://support.apple.com/en-au/HT202491.

Again depending on which version of macOS you are using, there may be a number of messages requesting permission for MacYTDL to control the Finder and System Events:
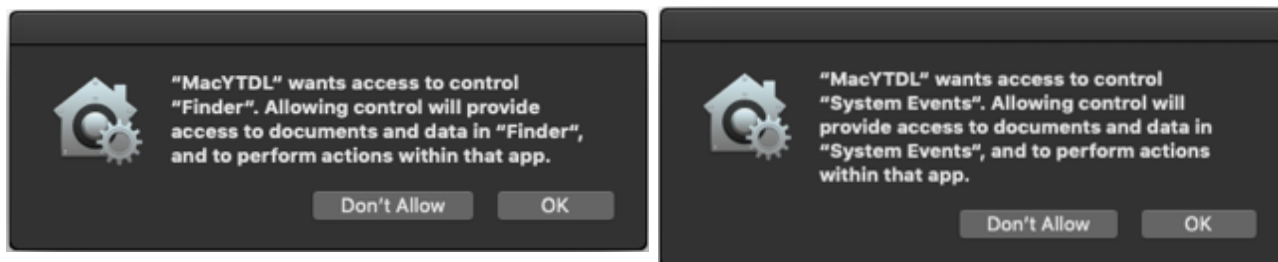
Alternatively, you may see these messages:

MacYTDL cannot function without those permissions, Click on "OK".

If you see the second kind of message or you click on "Don't Allow" on the first, you need to give permission manually in System Preferences:

- go to *System Preferences* on your Mac;

- choose the "Security & Privacy" preference pane;
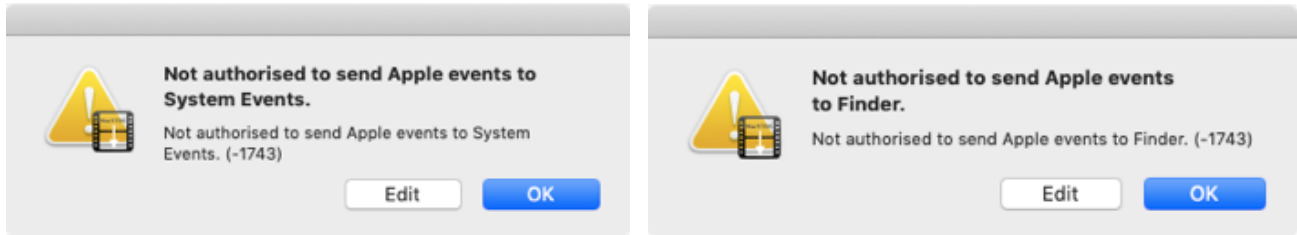
- choose the "Privacy" tab; and

- click on the "Automation" entry in the left hand sidebar.

If the two boxes under "MacYTDL" are not ticked:

- click on the lock symbol;

- enter an administrator user name and password; and

- place a tick in each box.

Your permissions should look like these:
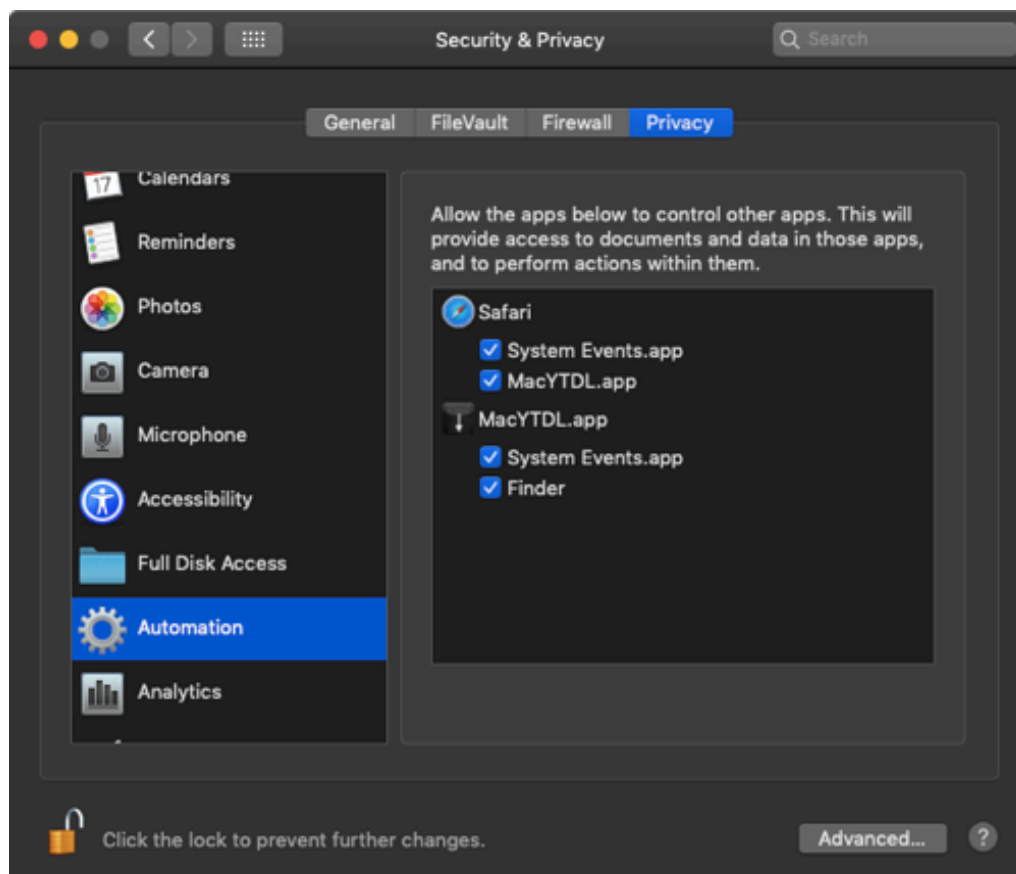
In the above example, there are two tick boxes under "Safari". They are required to use the [MacYTDL Service](#).

In macOS 10.14, 10.15 and 11, the permission dialogs may be shown each time you open a new version of MacYTDL for the first time.

The first time you start MacYTDL you will also be advised that various components used by MacYTDL need to be installed:

- A new folder called "MacYTDL" will be created in your "~/Library/Preferences" folder. It will contain a preferences file for MacYTDL, log files produced by *youtube-dl* and any batch file.

- *youtube-dl* will be downloaded and saved in the folder "/usr/local/bin/". That folder will be created if it doesn't exist.

- Two utilities, *FFmpeg* and *FFprobe*, will be downloaded and saved in "usr/local/bin".

- A script library which provides code for MacYTDL's dialogs will be copied to "~/Library/ Script Libraries". That folder will be created if it doesn't exist. The script library will be automatically updated as new versions are released.

- MacYTDL will offer to install a Service in your "~/Library/Services" folder. The Service called "Send-URL-To-MacYTDL.workflow" sends URLs to MacYTDL from other applications. It is not required for MacYTDL to function and can be installed later if preferred. If installed, the Service will be automatically updated as new versions are released.

  - [More detail is provided below](#).

- MacYTDL will offer to install a small executable, AtomicParsley, in your "/usr/local/bin/" folder. Atomic Parsley is used by *youtube-dl* to embed thumbnail images in downloaded videos. It is not required for MacYTDL to function and can be installed later if preferred.

  - [More detail is provided below](#).

Please note: downloading the various components takes time. It can look as if MacYTDL is not doing anything. Also, the component downloads cannot be cancelled. Please just wait.

Zip files will be saved into "usr/local/bin" during the process to install *FFmpeg* and *FFprobe*. Do not delete them. That will cause an error in MacYTDL. The two Zip files will be automatically deleted when the install is finished.

On startup, MacYTDL will automatically look for and re-install any missing components.

When installation is finished, the MacYTDL main dialog will be displayed.

Using MacYTDL

MacYTDL will try to download a video from any valid URL that is entered into the "Paste URL here" text box. URLs can be:

- copied from any app and pasted into the MacYTDL dialog;

- clicked-and-dragged from any app into the MacYTDL dialog;

- entered manually into the MacYTDL dialog.

When a URL has been entered into the main dialog, click on "Continue" or press the [Return] key to start the download.

If you have installed the MacYTDL Service, instead of copying the URL you can choose:

[application menu eg. "Safari"] => Services => Send-URL-To-MacYTDL

The MacYTDL Service will check whether you have selected a URL in the current document, have copied a URL to the Clipboard or have opened a web page in a web browser, switch to MacYTDL and paste the URL into the text box.

Multiple URLs can be pasted or entered into the text box before downloading. They must be separated by a space. MacYTDL will download each video in turn but in one process (and saving just one *youtube-dl* response log file). Alternatively, URLs can be pasted and videos downloaded in separate processes. Current settings can be displayed before starting download.

This is the main dialog:
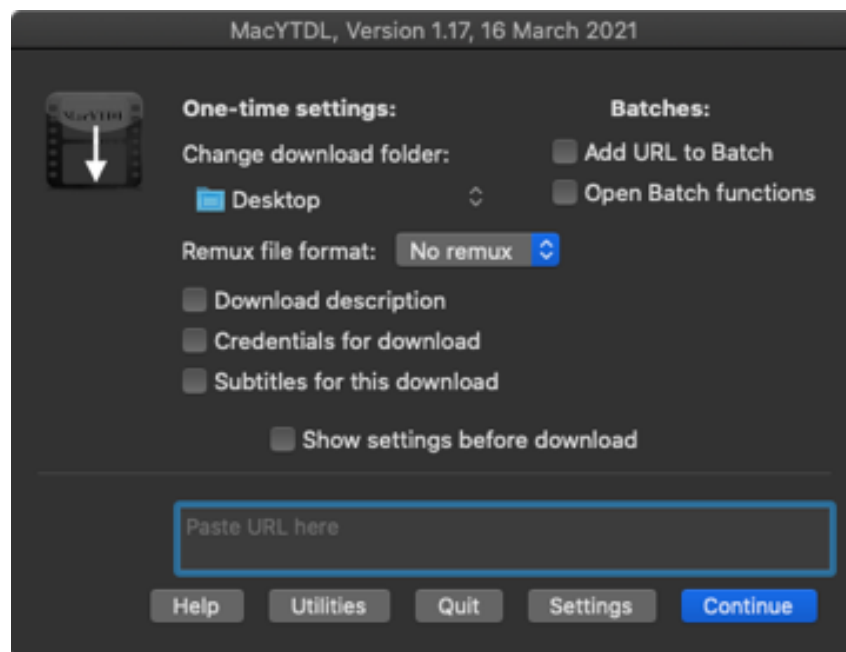
After initiating the download, the main dialog will disappear for a short while. MacYTDL will check the URL and if it's OK, will redisplay the main dialog, start the download and display a "Monitor" dialog. Sometimes, the Monitor dialog is displayed before any downloaded data has been saved. In that case, the Monitor dialog reports "Progressing" but as the download continues, it will report on progress:

From the Monitor dialog, you can open the log folder, stop the download or close the dialog.

To cancel a download, click on the "Stop" button. The download will cease and any partially downloaded files moved to the Trash. This will also cancel downloading multiple videos that are in one process (e.g. YouTube playlists). Completed downloads, subtitles files, description files and partially completed batch downloads are not deleted.

Note, MacYTDL cannot cancel a download after the Monitor dialog has closed.

You can leave the Monitor dialog open and switch back to the Main Dialog to download another video. A separate Monitor dialog will be shown for each download process. Each can be closed and the related downloads cancelled separately in any order.

Monitor dialogs provide some detail on progress with the download. Depending on the site from which a video is being downloaded, progress is shown as a percentage of the total expected file size or the total downloaded up to that point. The time elapsed since download started is also shown. Some downloads involve a number of separate files e.g. playlists and separate video-audio merges. In those cases, the progress reported will reset when the next file download commences. Monitor dialogs are updated every 5 seconds.

MacYTDL shows a message when each download process is finished:
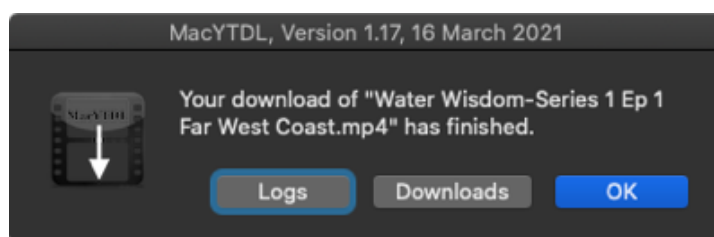
MacYTDL displays a message if any errors were reported during the download whether or not the download completed successfully.

Downloaded files are named as usefully as possible with series name and episode details for the Australian broadcasters ABC (iView), TEN (10Play), SBS (On Demand), Nine (9Now), Seven (7Plus) and for ITV.

The Main Dialog

The Main Dialog should be reasonably self-explanatory. Paste a web page address (i.e. URL) into the text box and click on "Continue" or press the Return key.

The position of the Main Dialog will be remembered if it is moved to another place on the Desktop.

Multiple URLs can be pasted into the box, separated by a space character. When "Continue" is selected, those videos will be downloaded sequentially in one process.

Click on "Settings", or press command-s, to change the MacYTDL settings. See [below for details](#).

Click on "Utilities", or press command-u, to access a variety of functions. See [below for details](#).

To show this help file click on "Help", or press command-shift-?

Click on "Quit" or press command-q to quit MacYTDL.

One-time settings

Five options can be set for the next download.

- The download folder can be set.

- The download container can be remuxed, that is, converted into another format. The choice of format is: mp4, mkv, webm, ogg, avi and flv. Remuxing is always done by *FFmpeg*. This can be handy when the desired format is not available from the web site. The original file can be kept or automatically deleted according the the choice in Settings.

- A file containing a description of the video (if available) can be downloaded and saved with the video file. The file will be named "[the video name].txt".

- Username and password credentials can be added for the next download:

 - I have not be able to test this. If there are any problems with this function, please send a message to macytdl@gmail.com.

- A subtitles file can be downloaded (the subtitles format and language are taken from "Settings" or set to the *youtube-dl* default, "best").

The one-time settings are <u>not</u> saved. They return to the saved settings after the "Continue" button is clicked. Thus, the user may have set the usual download folder to "~/Movies/" but can use the runtime setting to download the next video to somewhere else eg. "~/Desktop/". After that videos will be downloaded to "~/Movies/".

Batches

Instead of downloading immediately, URLs can be saved for downloading later. When the "Add URL to Batch file" checkbox is ticked and the "Continue" button is clicked, the URL is saved in a "batch" file. The batch file is stored in the MacYTDL preferences folder.

To access all batch functions, click on the "Open Batch functions" checkbox and click on "Continue". See [below for more detail](#).

"Show settings before download"

If ticked, current download settings will be displayed with the options to quit, edit settings, cancel the download or download. The dialog also provides the option to change the saved "Show settings before download" setting.

The MacYTDL Service – "Send-URL-To-MacYTDL"

MacYTDL includes an optional utility, the Send-URL-To-MacYTDL service. Services are small programs which provide extra functions in other applications. They are accessed using the "Services" item within the application and context menus.

Send-URL-To-MacYTDL works with any application that handles text. It makes downloading a video with MacYTDL a little quicker and easier. It takes any URL that has been copied or selected in any application and sends the URL to MacYTDL. If no URL has been copied or selected and a web browser is active, the Service will copy the URL of the current active tab and send that URL to MacYTDL. The web browsers it works in are Safari, Opera, Firefox, Microsoft Edge, Chrome and Chromium.

The procedure to start with depends on where you find the video URL that you wish to download:

- If the URL is visible in text of any document in any application, select the text.

- If the URL is in a hyperlink in any document in any application, use the provided function to copy the link (e.g. in Safari, right-click the link text and choose "Copy Link").

- If the URL is in the address bar of a currently active web browser, just go to the next step.

Next, when you have copied or selected a URL or have that URL in your web browser:

- go to the application menu (eg. the menu with the heading "Safari");

- browse down to "Services";

- choose "Send-URL-To-MacYTDL".

Send-URL-To-MacYTDL will launch or switch to MacYTDL and set the URL of the video to be downloaded.

If you don't install Send-URL-To-MacYTDL when you first use MacYTDL, it can be installed later – see "Utilities" below.

Some people find using keystroke shortcuts to be quicker than using menus. To set a shortcut for the Send-URL-To-MacYTDL service:
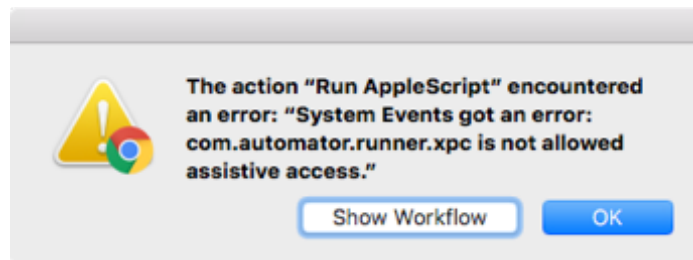
- open System Preferences;

- click on "Keyboard";

- click on "Shortcuts";

- click on "Services" in the left hand pane;

- scroll down to "General";

- click in the tick box next to "Send-URL-To-MacYTDL"

- type the shortcut you wish to use.

On first using the Service, a message will probably be shown:
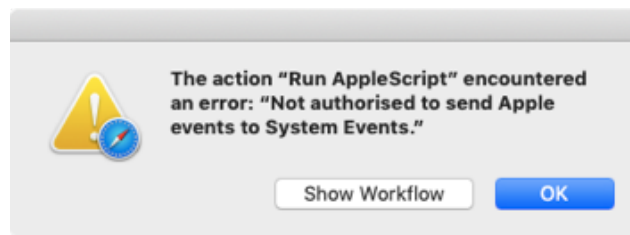
This means that the MacYTDL Service needs permission to use your web browser to send commands. In that case follow the procedure on page 5 above to give Safari permission to control "System Events".

Another message may be shown at the same time, if MacYTDL is running:

In that case, you will need to give permission for the MacYTDL Service to use your web browser to control your Mac:

- open "System Preferences";

- click on "Security & Privacy";

- click on "Accessibility";

- click on the padlock and enter an administrator account credentials when asked;

- if your web browser is not shown, click on the "+" symbol and navigate to your web browser application (usually in the "Applications" folder) and click on "Open";

- make sure there is a tick beside the web browser application;

- click on the padlock to prevent further changes.

If MacYTDL is not running, you may also see this message:
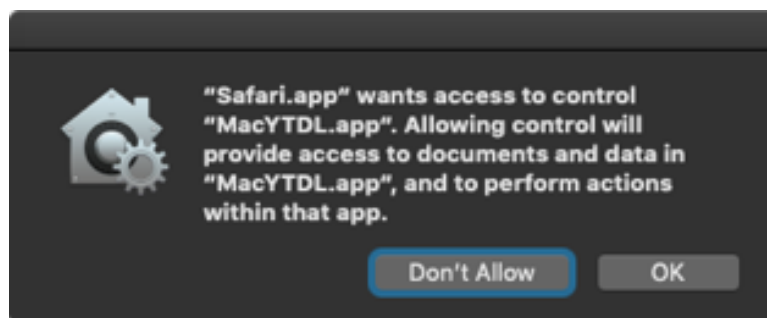
In that case, click on "OK" or follow the procedure on page 5 above to give Safari permission to control MacYTDL.

How to uninstall MacYTDL

To uninstall MacYTDL, click on the "Utilities" button in the main dialog and click on "Uninstall". There is an opportunity to reconsider uninstalling:
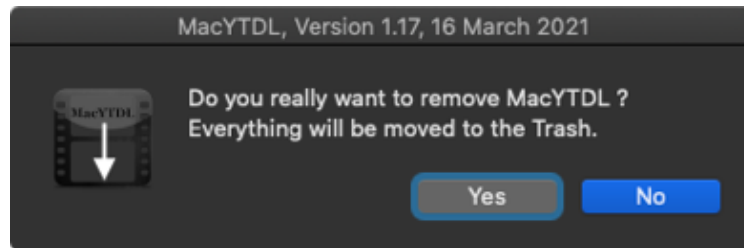
Confirm that you wish to remove MacYTDL and all MacYTDL related files will be moved to the Trash.

If you change your mind you can put back all those files individually or just put back MacYTDL and run it again. All components will then be downloaded and installed as before.

Settings

MacYTDL uses a number of options that are provided by *youtube-dl*. To access settings, click on the "Settings" button in the main dialog or press command-s. The Settings dialog will be displayed:
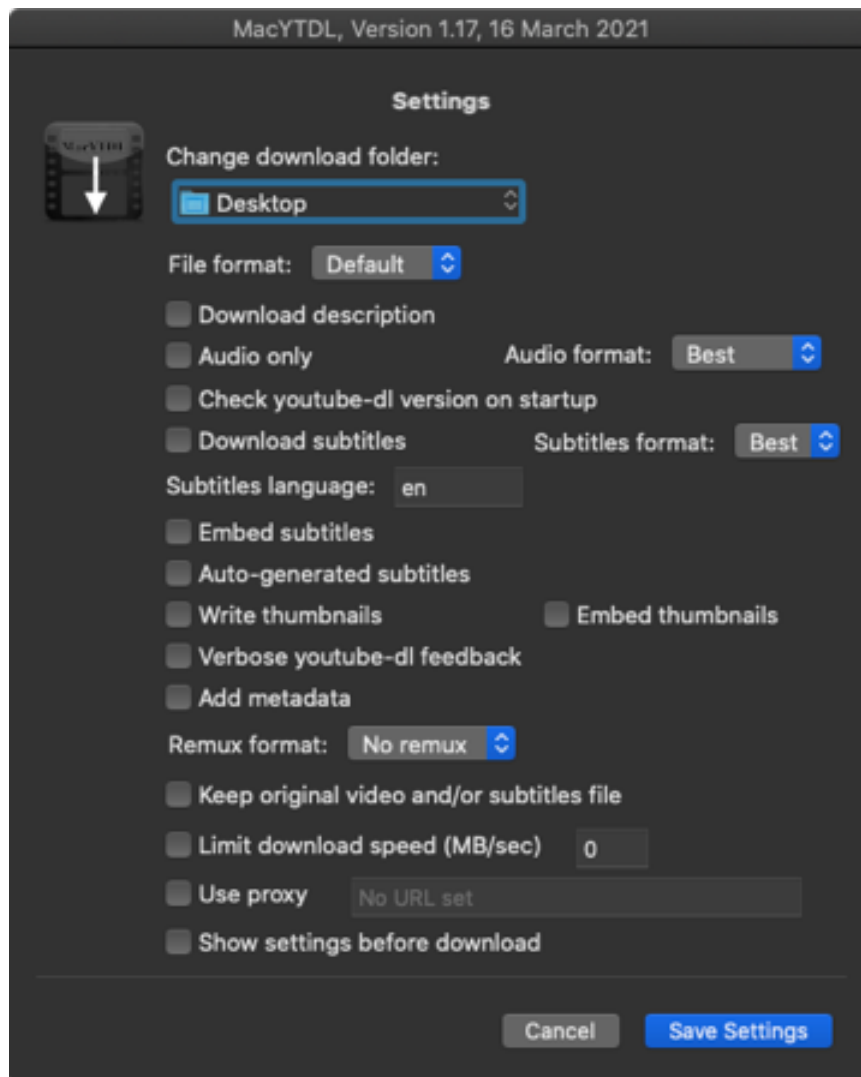
To save changes, click the "Save Settings" button or press the Return key. That will save your settings and take you back to the Main dialog.

"Change download folder:"

To change the folder in which videos are saved, click on the drop-down box and click on "Choose…". Choosing any of the other locations listed will not change the download folder.
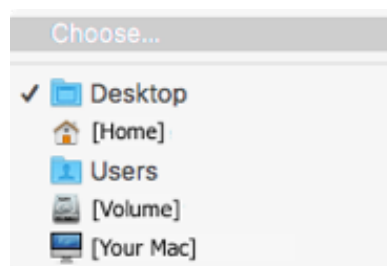
A choose folder dialog is shown enabling you to select a folder in which downloaded videos will be saved. To create a new folder, press command-shift-n.

Note: The download folder must be available for MacYTDL to be able to download videos into the folder. If the download folder is on an external volume, make sure that volume is mounted on your Desktop. Also, MacYTDL might not be able to save videos on an external volume which is password protected.

"File format"

By default, MacYTDL will try to source files from the given web site which can be merged to give the highest resolution video and best quality sound together. If the best quality available is a single file, that will be downloaded. This setting forces MacYTDL to download the best <u>single</u> file available in the chosen format. It can result in a lower quality, often smaller, file. Thus, this setting can usually be left at "Default".

File format specifies a choice of container format. The choices are: Default, mp4, webm, ogg, 3gp and flv. MacYTDL checks whether the format chosen is available from the web site. If not, it asks whether to:

- ignore the preference and download the best format available;

- download the best format and remux to the preferred format;

   <u>Note</u>: Remuxing to some formats will fail if the downloaded video does not contain the required codecs. Remuxing to "3gp" is not available and will revert to "mp4" instead;

- cancel the download.
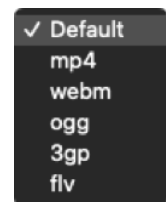
"Download description"

Enables descriptive text provided by the video web site to be downloaded. The description is saved in a text file called "[the video name].txt". It is saved in the downloads folder.

"Audio only"

Requests a download of just the audio part of the video. Some web sites offer separate audio files for download. If a separate audio file is available, it will be downloaded in the best quality available. If a separate file is not available, the full video will be downloaded and the audio component extracted to a separate file with the best quality and the original file will then be deleted. If a remux format is set, the downloaded container will be remuxed to the desired format if it is compatible.

<u>Note</u>: Remuxing an audio-only download can be tricky and any incompatible combination will cause an error. Usually, there is no need to remux audio files as they are already in a compatible container.

"Audio format"

If "Audio only" is chosen, the resulting download will be in this format. Choices are best, aac, FLAC, mp3, m4a, Opus, Vorbis, wav.

<u>Note</u>: If a remux setting is also chosen, the resulting audio codec will be the most compatible with the selected container format. Thus, for example, if the container is remuxed to "mp4", the audio will be stored in "aac" format even though mp3 was selected.
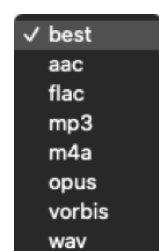
"Check youtube-dl version on startup"

When this setting is on, MacYTDL will automatically check whether a new version of *youtube-dl* is available every time MacYTDL is started. If so, the user is invited to update. This is useful as *youtube-dl* is updated regularly, sometimes every few days. Updates can improve downloading from some web sites, remove bugs from the *youtube-dl* core and add support for new sites.

"Download subtitles"

Enables subtitles file to be downloaded if they exist. Subtitles are saved in the chosen format and converted if the web site does not provide that format. If subtitles are not available, the download can be cancelled or continued. If the video is being downloaded from YouTube, this setting will provide author-generated subtitles if they are available. MacYTDL will warn if author-generated subtitles are requested but only auto-generated are available and vice versa.

"Subtitles format:"

Enables a choice of subtitles format. Choices are: best, srt, vtt, ass, lrc, ttml and dfxp. If the chosen format is srt, ass, vtt or lrc but is not available, the best available will be automatically downloaded and converted to the desired format. If the chosen format is dfxp or ttml and that format is not available, MacYTDL will download the best available.
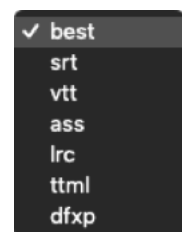
"Subtitles language"

Enables choice of subtitles language. To request a language, enter the relevant language code. A list of language codes is available on Wikipedia. Use the two-letter codes in the "639-1" column. Note, however, that some web sites adhere to the IETF standards which can include country or region codes e.g. "en-US" for English US. If a web site does not offer the language you request, MacYTDL presents a list of available languages.

"Embed subtitles"

Subtitles will be embedded in the video file instead of being saved in a separate file.

Note: The subtitles file will be downloaded, then deleted or retained after embedding is finished according to the "Keep original…." setting (see below). Embedding may remove custom formatting eg. text colour.

"Auto-generated subtitles"

The YouTube web site offers automatically generated subtitles (called "captions") for some videos. This setting will download those subtitles if they exist.

If both author and auto-generated subtitles are requested and both exist, author-generated subtitles will be downloaded (as they usually have a better translation into text). MacYTDL will warn if auto-generated subtitles are requested but only author-generated are available and vice versa.

"Write thumbnails"

If it exists, a separate thumbnail image file will be saved with the video file.

"Embed thumbnails"

If it exists, a thumbnail image will be embedded in the video file. This option is only available if the *AtomicParsley* tool has been installed.

"Verbose youtube-dl feedback"

youtube-dl provides feedback on progress and what it did during the download. The feedback is stored in a file called "youtube-dl_response-[the video name]-[date-time].txt" that is saved in this location: "~/Library/Preferences/MacYTDL".

If there is a problem with the download, that file might provide clues on the cause. With the verbose option, *youtube-dl* provides more detail in its feedback. To open the folder containing the response files, use the "Open log folder" function in "Utilities".

"Add Metadata"

Any available metadata will be embedded in the video file in the correct variables.

"Remux format"

Video files are usually a combination of a video component and an audio component (i.e. codecs) within a container. Common video formats include: H.264, vp09, H.265 and DivX. Common audio formats include: aac, mp3, m4a, FLAC, Opus and WAV. Common container formats include: mp4, mkv, webm, avi and ogg. Some combinations of codecs and containers are more common than others e.g. audio within mp4 containers is usually in aac format. Also, some audio formats can exist without a container e.g. mp3. Others are stored within a simple container with the same name e.g. FLAC, m4a. Further, the file extension can vary with the kind of device on which the file is played e.g. mp4 audio with Apple's DRM protection are named ".m4p".

In *youtube-dl* and MacYTDL, remuxing is the process of converting one video container format to another. An example would be to convert a webm file to mp4. MacYTDL implements remuxes with no change to the audio and video codecs, which are copied to the new container format. Thus, it is possible that the audio and video components might not be compatible with the container format. Detail on containers and compatible codecs are available on Wikipedia.

On occasion, the desired container format is not available from a web site. For example, many YouTube videos are in "webm" format which might not suit all situations. This MacYTDL option will download the best quality available then convert the download into the chosen container format. The choice of container format is: mp4, mkv, webm, ogg, avi and flv. Remuxing is always done by *FFmpeg*. Remuxing is skipped if the best format available is already in the chosen format.
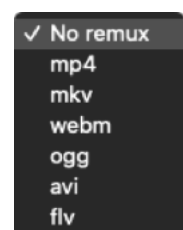
Note: It is often best to leave the file format and remuxing settings to "Default". That will ensure *youtube-dl* downloads the best quality video and audio in the most compatible container.

Note: Remuxing to ogg or webm formats will often fail. Webm is a container for VP8/VP9/AV1 (video) and Vorbis/Opus (audio) formats and will fail in MacYTDL if one of those codecs is not in the dowloaded file. Similarly, ogg is a container for Speex, Vorbis, Opus, FLAC, Theora, Daala, Tarkin and Dirac formats and will fail in MacYTDL if one those codecs is not available. If there is an error, the MacYTDL response file should have information from *FFmpeg* on the reason.

"Keep original video and/or subtitles file"

If a remux format is set or merging is automatically done by FFmpeg, this option enables the original file(s) to be retained instead of automatically deleted. Similarly, it will retain the original subtitles file if they have been embedded or converted.

"Limit download speed"

This sets the maximum download speed. It is useful if download bandwidth is limited and other apps have a greater need. The limit rate is in megabytes/second and must be a real positive number e.g. "0.5" will limit download to 0.5 megabytes/sec.

Note: If it detects features it does not support, youtube-dl delegates downloading to FFmpeg (e.g. video delivered by HLS). In that case this setting has no effect.

Note: A different speed can be set for each download. This setting does not control downloads which are underway.

"Use proxy"

Some users need to supply a proxy URL in order to download a video. This setting passes the URL saved to youtube-dl which uses that URL to request the video for download. The URL must start with "http:", "https" or "socks". A URL must be entered to use the proxy feature.

"Show download settings before starting download"

If ticked, current download settings will be displayed with the option to download, change settings, cancel the download or quit MacYTDL:
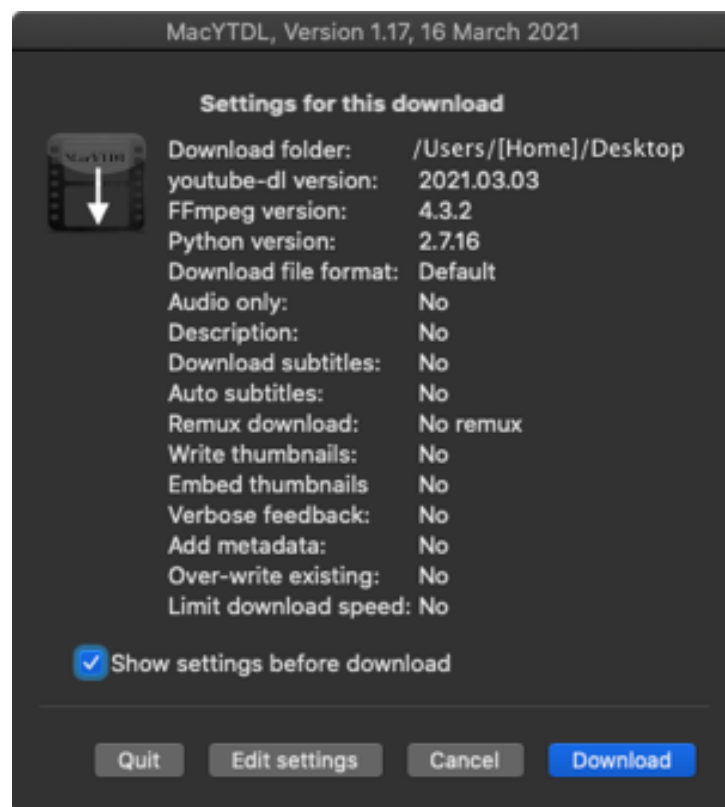
"Cancel" – command-c

Exit and return to the main dialog without saving any changes. Keyboard shortcut is command-d.

"Save Settings" – Return

Save all changes to options and return to the main dialog. Keyboard shortcut is Return.

Utilities

A number of additional utilities are available to help with using MacYTDL. Click on the "Utilities" button or press command-u in the main dialog:

Any combination of the eight checkbox options can be selected at the same time. They will be performed in order when the "Start" button is clicked.

"Open log folder"

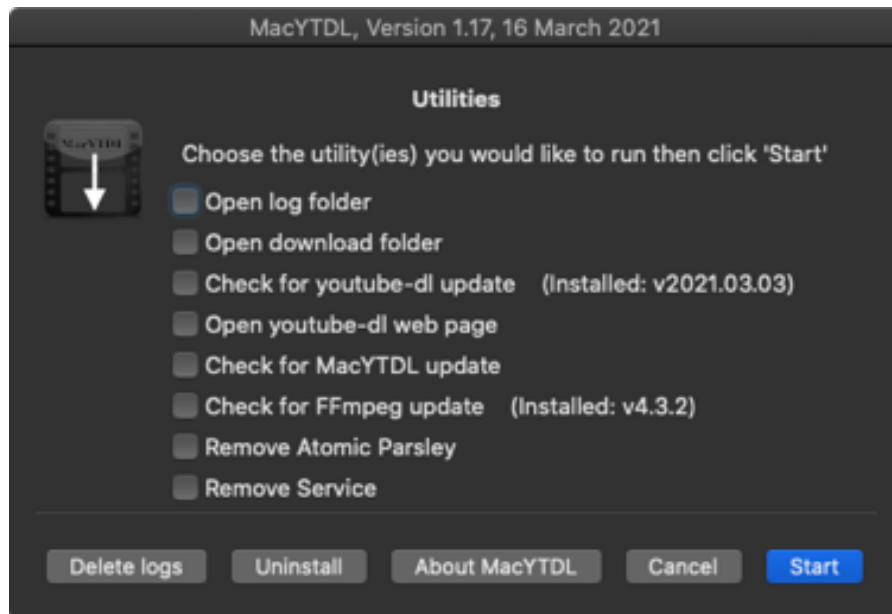This will open the folder where all the *youtube-dl* "response" or, log, files are stored (in "/Users/ [your home]/Preferences/MacYTDL/"). A separate log file is saved for each download.

"Open download folder"

This will open the folder where downloaded videos are saved.

"Check for youtube-dl update"

Checks whether a new version of *youtube-dl* has been released. If so, offers to download and install.

Note: The *youtube-dl* developers issue updates regularly. So, it is worthwhile checking for updates regularly or setting the option to automatically check on start-up.

"Open youtube-dl web page"

Opens the *youtube-dl* "Releases" web page in user's default web browser. The Releases page provides detail on the changes made to *youtube-dl* in each release and the changes being prepared for the next release. The URL is: github.com/rg3/youtube-dl/releases.

"Check for MacYTDL update"

Checks whether a new version of MacYTDL has been released. If so, offers to download the new version. If downloaded, it will be saved into the MacYTDL downloads folder. Users can then install the new version where they prefer.

"Check for FFmpeg update"

Checks whether a new version of *FFmpeg* and *FFprobe* has been released. If so, offers to download and install the new version.

"[Install/Remove] Atomic Parsley"

AtomicParsley enables thumbnail images to be embedded in video downloads. This enables *AtomicParsley* to be installed if that was not done on the first startup. It enables *AtomicParsley* to be removed if it has been installed. *AtomicParsley* is needed if you wish to embed thumbnail images in video files. It is used automatically by *youtube−dl*.

"[Install/Remove] Service"

This enables the MacYTDL Service to be installed if that was not done on the first startup. It enables the Service to be removed if it is installed. The MacYTDL Service takes a URL from the current text selection in any document, the Clipboard or the current web browser tab, switches to MacYTDL and pastes the URL in the MacYTDL URL text box.

"Delete logs" – command-d

Moves to Trash all the *youtube-dl* "response" files.

"Uninstall" – command-shift-U

Moves all files related to MacYTDL to the Trash. Keyboard shortcut is command-shift-U. Asks for confirmation before moving files. If you change your mind you can put back all those files individually or put back just MacYTDL and run it again. All components will then be downloaded and/or installed again.

"About MacYTDL" – command-a

Displays a dialog with information about MacYTDL.

The "Visit Site" button opens the MacYTDL GitHub page in the user's default web browser. The GitHub page provides some detail on MacYTDL, a facility for logging issues or suggestions and links to downloads of the current and old versions. The URL is: https://github.com/section83/MacYTDL/. The second button opens a blank message in the user's default e-mail programme addressed to MacYTDL developer.
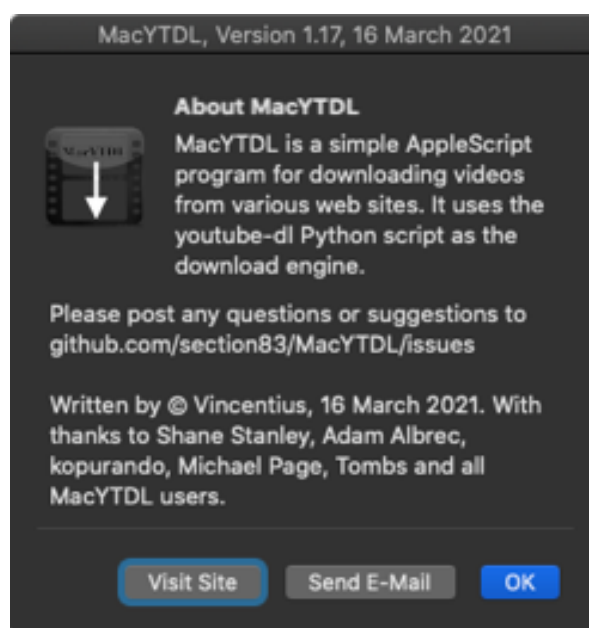
Downloading videos from ABC iView (in Australia)

ABC iView in Australia serves individual videos from what can be called "Show" pages. Episodes are not available from their own web page. For example, all episodes of the show *Midsomer Murders* are available on the one "Midsomer Murders" page.

Downloads from iView now require *youtube-dl* version 2018.06.14 or later.

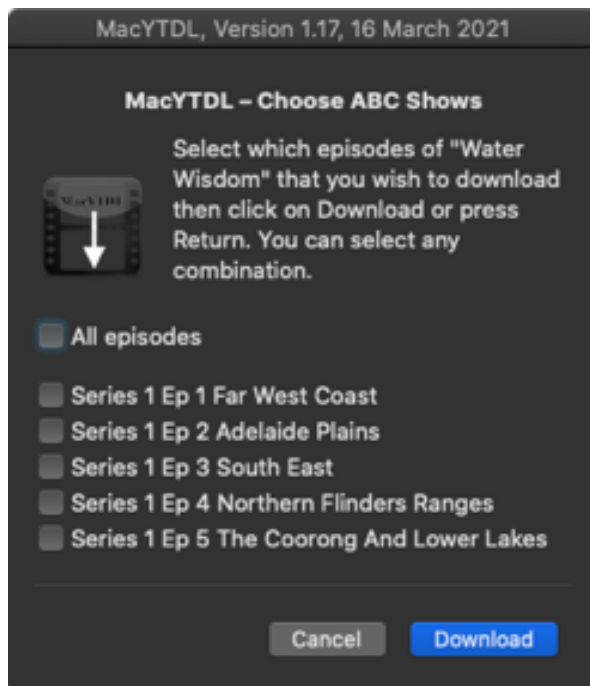If the URL of a "Show" page is pasted into MacYTDL and there is more than one episode, a separate dialog will be displayed listing all the episodes available. The desired videos can then be chosen for download. There is an "All episodes" checkbox which will download all episodes. This is an example iView download dialog:

MacYTDL will also locate and list any "Extras" videos that are available for a show.

On iView the ABC has some shows for which there are a great many episodes ("Gardening Australia has 128). MacYTDL will try to show all the episodes in this dialog. On a Mac very low screen resolution (e.g. 1024x640), however, the dialog might be too large to show all episodes if there are more than 80. Hopefully a future version of MacYTDL will address that problem.

Notice that for some shows, episodes are shown in reverse order to match the order mostly used in iView.

At present MacYTDL can download from only one show page in each download process. However it can download:

- from any number of show pages if each download is requested separately;

- any number of episodes from any series of a single show; and

- any number of separate episodes from any show pages in one process if the URLs of each episode are supplied manually.

To download a number of individual episodes from more than one show page:

- navigate to the particular episode desired;

- right-click on the episode's thumbnail image;

- click on "Copy link";

- switch to MacYTDL;

- paste the URL then add a space;

- return to iView, navigate to the new desired show episode and repeat the above steps.

If a show page has only one episode, MacYTDL will automatically commence to download that episode.

A separate destination folder can be specified in the "One-time settings" on the Main dialog. However, that must be done before selecting "Continue".

Downloading videos from SBS OnDemand (in Australia)

As with the iView web site, the SBS OnDemand web site in Australia serves episodes of shows in a single "show page". Episodes are not available from their own web page. For example, all episodes of the show *Home Ground* are available on the one "Home Ground" page.

If the URL of a "Show" page is pasted into MacYTDL and there is more than one episode, a separate dialog will be displayed listing all the episodes available in Season 1. As yet, it is not possible to provide shows from later seasons in this dialog. The desired season 1 videos can then be chosen for download. There is an "All episodes" checkbox which will download all episodes. This is an example OnDemand download dialog:
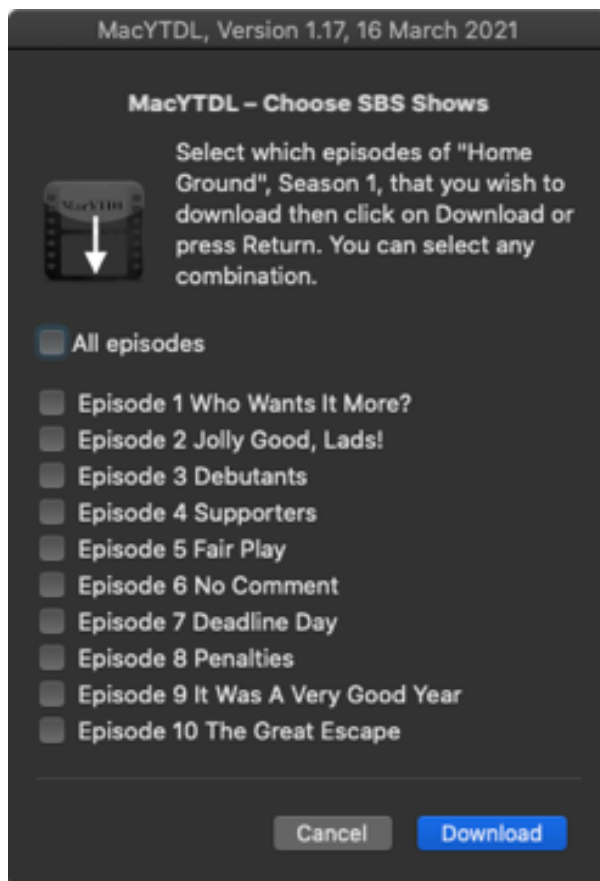
To download episodes in later seasons:

- click on the Season, to display a list of episodes for that season;

- right-click (or control-click) on the thumbnail picture of the desired episode;

- click on "Copy Link" – which will copy the episode's URL;

- switch to MacYTDL;

- paste the URL in the text box;

- click on Continue or press Enter/Return.

Notice that for some shows, episodes are shown in reverse order to match the order mostly used in OnDemand and there can be variation in the name of the show.

At present MacYTDL can download from only one show page in each download process. However it can download:

- from any number of show pages if each download is requested separately;

- any number of episodes from any series of a single show; and

- any number of separate episodes from any show pages in one process if the URLs of each episode are supplied manually.

If a show page has only one episode, MacYTDL will automatically commence to download that episode.

A separate destination folder can be specified in the "One-time settings" on the Main dialog. However, that must be done <u>before</u> selecting "Continue".

Working with dual monitors

By default MacYTDL shows the Main dialog on the main screen of a dual monitor setup. If it is moved to the secondary monitor and closed, it should be displayed in that new location when reopened. However, results depend on the particular setup. The Monitor dialog always displays in the top right hand corner of the main display.

Problems can arise if the screen layout is changed while MacYTDL is running. This is because, currently, the position of MacYTDL's dialogs is taken from the previously saved coordinates which become invalid if the layout is changed. It's best not to change the layout while MacYTDL is running. Making MacYTDL more friendly with dual monitor setups is still a work-in-progress.

Batch functions

There can be situations in which you wants to download a collection of videos at another time. For example, download speeds can be faster outside peak hour periods. The MacYTDL "Batch" functions enable URLs to be saved and downloaded at a later time. URLs are stored in a file called "BatchFile.txt" which is stored in:

/Users/[Home]/Library/Preferences/MacYTDL/

To add a URL to the batch file:

· in the Main dialog, click on the "Add URL to Batch file" checkbox;

· paste the URL into the text box (if you did not use the MacYTDL Service); and

· click on the "Process" button.

The URL will be checked to ensure it is valid then, added to the batch file and a message displayed accordingly. This involves checking with the video web site concerned and so can take time.

The "Add URL to Batch file" checkbox will remain ticked until manually unticked or the user quits MacYTDL.

A separate dialog is provided to handle all other batch functions. To display the Batch functions dialog, in the Main dialog, click on the "Open Batch functions" checkbox then click on the "Process" button. This dialog will be displayed:
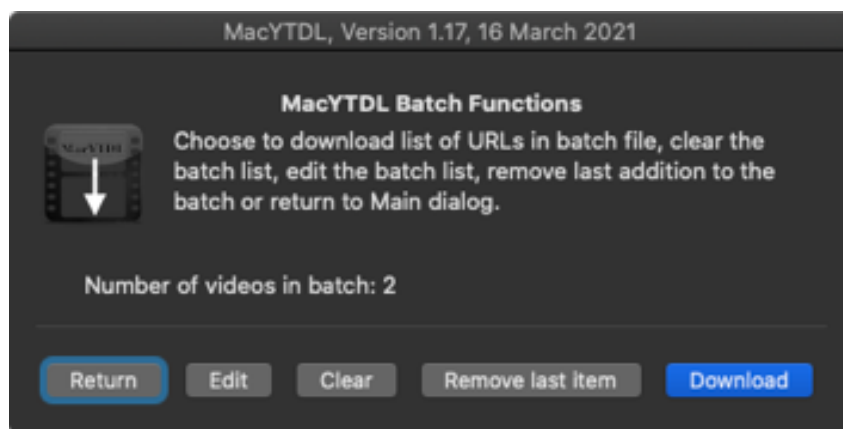
To download all the videos saved in the batch file, click on the "Download" button. The video downloads will commence and continue, one at a time.

The Batch file is cleared automatically if the downloads are completed and no errors are reported.

Clicking on the "Edit" button will open the batch file in the user's default text editor. The batch file is a plain text file. There are restrictions on editing the file:

· the file must be saved as a plain text file – ie. not as rich text or word processing file;

· there can only be one URL per line – and no other text; and

· there must be a blank line at the end of the file – there can be no other blank lines.

The "Clear" button will remove all saved URLs from the batch file.

The "Remove last item" button will delete the most recently added URL from the batch. That can be useful if a URL was added by accident.

The "Return" button closes the Batch Functions dialog and returns to the Main dialog.

There are a number of limitations with this batch function:

- Download settings apply to all videos in a batch – ie. settings are not saved with each URL. Thus, if a setting such as "Audio only" is set, then only the audio component of each video will be downloaded. It is usually safer to store URLs in the batch file that are all video files or all audio files rather than mixing them up.

    - Consequently, also, all videos in a batch will be saved in the same downloads folder.

- Invalid text in the batch file may cause *youtube-dl* to post an error. MacYTDL will ask *youtube-dl* to ignore errors and continue downloading but might not advise of that error. In any event the error should be reported in the response file.

- Incomplete downloads are not automatically deleted by the Monitor dialog "Stop" function.

- MacYTDL does not check for duplicates in the batch file. A URL which is saved to the batch file more than once will be downloaded again that many times – ie. if saved twice, it will be downloaded two times.

- It is not possible to choose which videos in a batch to download. However, lists of URLs can be saved in separate files and copied and pasted into the batch file for downloading.

Overwriting existing videos ?

By default, MacYTDL will not overwrite an existing file. It always checks whether a video with the same name has been saved in the downloads folder. If so, a warning dialog is shown:
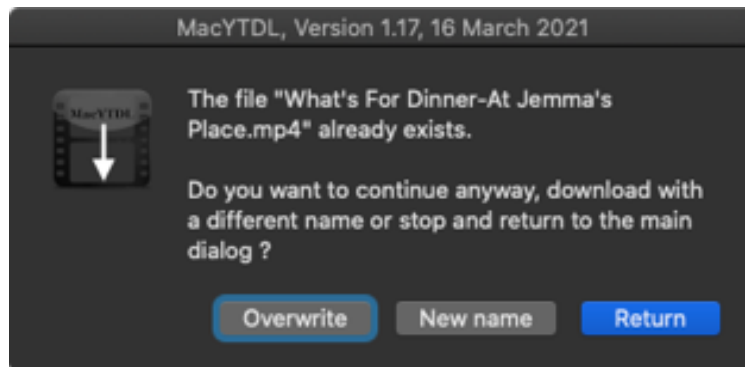
"Overwrite"

MacYTDL will move the existing file to Trash and commence downloading the new file.

"New name"

MacYTDL will commence downloading the new file with "-2" appended to the file name.

NB. At present, if there is more than one file to be downloaded, e.g. a playlist, ABC iView episodes, a batch or multiple video download, MacYTDL will add "-2" to the names of <u>all</u> files downloaded, not just those which already exist. That is because although *youtube-dl* can download a number of files in one process, it apply only one output template for all the file names.

"Return"

Downloading is cancelled and the Main dialog is displayed.

What if the download doesn't work ?

There are many reasons why a download might fail or not produce the desired result. MacYTDL does do a "simulated" test download and reports errors found (eg. because of invalid URLs or DRM limitations). But, that test cannot find all possible problems.

There is an option to attempt to download even when there is an error as well as some warnings. The download might well fail. If so, check the response file for possible reasons.

MacYTDL will show a warning that there was a problem if the download was not 100% complete or an error was reported by *youtube-dl*. Also, if a download is interrupted, it is possible for *youtube-dl* to continue the download from the point of interruption or to download a missing component. So, it is worthwhile trying the download again.

Note: An error with a video in a YouTube playlist will not prevent other videos in the list from being downloaded. If an error message is displayed, just click on "Download" to download the available videos.

A common problem is that a web site has changed and *youtube-dl* is no longer able to find the correct file to download. The best solution is to check regularly for and install updates to *youtube‒dl*. Use the "Check for youtube-dl update" function or turn on the "Check youtube-dl version on startup" option.

Another common issue is AES-SAMPLE encryption or another DRM control. Many videos are encrypted with DRM protection and cannot be downloaded by *youtube-dl*. Sometimes, these issues are caught when MacYTDL checks the URL. In that case, what happened is noted in this file:

 /Users/[Home]/Preferences/MacYTDL/youtube-dl_simulate.txt

Note that the simulate file is overwritten by the next download.

If MacYTDL proceeds to download the video, *youtube-dl* produces a detailed "response". If the download fails, that response might help to diagnose problems. MacYTDL saves the youtube‒dl response in a separate file for each download. The file is saved here:

 /Users/[Home]/Preferences/MacYTDL/youtube-dl_response-[name of video].txt

The "verbose" option will provide more detail to help diagnose issues.

Information on how *youtube-dl* functions is available at: https://github.com/ytdl-org/youtube-dl/blob/master/README.md.

Limitations

MacYTDL has some limitations:

- Can't download encrypted or DRM protected videos – this is a limitation of *youtube-dl*.

- Does not use specific options to overcome geo-blocking.

- Does not provide download options (eg. retries, dates, archives, filters).

- Provides little control over the format of videos downloaded (eg. can't download and merge a video-only file with a video+audio file which enables higher quality audio with some downloads).

- Cannot download from more than one ABC iView or SBS OnDemand show page at a time. MacYTDL will display an error message if the URLs of two or more iView or OnDemand web pages are entered. Note: two or more URLs for any individual episodes CAN be downloaded and downloads from two or more show pages can be downloaded at the same time if in separate processes.

- The Send-URL-To-MacYTDL service cannot work when the web browser is in full screen mode. Therefore, it takes the browser out of full screen before switching to MacYTDL.

Future developments

MacYTDL is being actively developed. Functions which might be added in the future include:

- Option to choose file format from a list of formats provided by the web site.

- Automatically provide episode choice for all seasons from "Show" pages for the Australian 7Plus, 9Now and 10Play catch-up sites.

- Improvements to the batch file functions.

- Improvements to downloading playlists.

- Use the *youtube-dl* config file for finer control over options.

- Added ability to use *Adobe Pass* credentials.

- Option to automatically download at a later time.

- Option to add ad-hoc *youtube-dl* command line parameters.

Why use a video downloader ?

There is some controversy around the practice of downloading videos especially from YouTube and TV catch-up sites. Copyright owners are concerned people will copy and distribute videos and so reduce the revenue from DVD and online sales. That is a real fear as downloaded videos can easily end up listed on Bit Torrent web sites such a Pirate Bay. That is why so many Bit Torrent sites have been blocked by court order in Australia and other countries. There is an active debate on the issue of such 'piracy' which would take too much space to cover here. But it's fair to conclude no one has won the debate as yet. Even reputable commentators provide advice on how to bypass blocks. Certainly, spreading copies of videos around the web via Bit Torrent is unethical. But, there are ethical reasons for downloading videos for personal viewing.

One reason for using a video downloader is particularly relevant to people in areas with poor internet access. In areas where downloads are very slow or unreliable it is just not feasible to watch videos online using streaming services. With slow download speeds, it can take 2 hours or longer to watch a 1 hour video. If the video stream is interrupted, some sites require the viewer to start again. Downloading a video means it is possible to watch the full file without interruption.

Secondly, watching a downloaded video inside dedicated player software is much more flexible than watching a frame inside a web browser window. Controlling a video on TV catch-up web sites is quite horrible: cumbersome, flaky and slow, often with poor quality. Most have advertisements. Adverts are fine except that if there's a streaming problem and viewing is interrupted, one usually has to wait through all the advertisements again to continue watching.

Just controlling web browser video players is hard. One has to muck with the mouse or keyboard to pause; fast forwarding and rewinding is unreliable; full screen display often isn't; and play-back is sometimes interrupted or jerky even on a fast connection. Many people use a universal remote to control many functions on the Apple Mac they use to play videos eg. through a TV. A universal remote makes life much easier – it's really hard to use a keyboard and mouse on your lap in front of the TV ! But, universal remotes (and especially the Apple Remote) usually can't control a video playing in a web browser window.

In September 2020, on request of the Recording Industry Association of America (RIAA), the host GitHub disabled *youtube-dl*. In November 2020, *youtube-dl* was restored following a letter sent to GitHub by the Electronic Frontiers Foundation. The letter explained why *youtube-dl* should remain available. It listed uses to which *youtube-dl* can be put:

> "It is used by journalists and human rights organizations to save eyewitness videos, by educators to save videos for classroom use, by YouTubers to save backup copies of their own uploaded videos, and by users worldwide to watch videos on hardware that can't run a standard web browser, or to watch videos in their full resolution over slow or unreliable Internet connections."

Given those reasons, using a video downloader like *youtube-dl* can be ethical. But, I think it's best to adhere to a few rules:

- Do not provide copies of downloaded videos to anyone else – especially do not provide copies online to other people by any means.

- Watch videos then delete them – the result then is similar to what would happen if watching online or recording a broadcast with a PVR.

- Look for other ways to access videos (eg. buy DVDs, borrow DVDs from the local library, record from free-to-air broadcasts, record or download from Pay TV providers who sell that product).

- If a broadcast is missed look for a repeat or "encore" broadcast before downloading.

Disclaimer: Providing MacYTDL or this information is not to be taken to endorse any breaches of the law or of the terms and conditions imposed by owners of web sites and videos. <u>You should check for terms and conditions on a web site before downloading</u>.

External components used

MacYTDL uses five tools to download and convert video files.

youtube-dl

The *youtube-dl* developers' description is best:

> "youtube-dl is a command-line program to download videos from YouTube.com and a few more sites. It requires the Python interpreter (2.6, 2.7, or 3.2+), and it is not platform specific. It should work on your Unix box, on Windows or on macOS."

youtube-dl can download videos from many sites around the world including some not on their supported sites list. More detail on *youtube-dl* is available at https://github.com/ytdl-org/youtube-dl.

youtube-dl can be downloaded separately at: https://github.com/ytdl-org/youtube-dl/releases

Python scripting language

Python is a script-based programming language that works on most operating systems. More detail is available here: https://www.python.org. Every Apple Mac should have a workable copy of Python. However, if there are problems with Python, releases are available from: https://www.python.org/downloads/mac-osx/

FFmpeg

FFmpeg, to quote from the developers, is:

> "A complete, cross-platform solution to record, convert and stream audio and video."

It is used by *youtube-dl* for a number of functions including to convert downloaded videos.

FFmpeg can be downloaded separately at: https://evermeet.cx/pub/ffmpeg/

FFprobe

FFprobe is a stream analyser. It is used by *youtube-dl* to collect details on the download video format etc.

FFprobe can be downloaded separately at: https://evermeet.cx/pub/ffprobe/

AtomicParsley

AtomicParsley is a small utility that embeds thumbnail images in video files. It is the default tool required by *youtube-dl* for that function.

There is no generally available *AtomicParsley* binary for macOS. Therefore, I created a new build on my iMac running macOS 10.13.4 using HomeBrew. The build commands were:

```
sudo chown -R $(whoami) /usr/local/var/homebrew
brew install atomicparsley
```

The source code was for version 0.9.6, dated 25 July 2014, prepared by user *dinkypumpkin* (who also created *Get iPlayer Automator*).

That executable is stored in the MacYTDL bundle resources folder. When requested, the installer copies *AtomicParsley* to "/usr/local/bin". More detail on *AtomicParsley* is available at: atomicparsley.sourceforge.net.

MacYTDL components

MacYTDL includes a number of AppleScript components.

DialogToolkitMacYTDL.scptd

This is an AppleScript library that must be installed for MacYTDL to work. It is stored in the MacYTDL bundle resources folder. The installer copies it from there to the "~/Library/Script Libraries" folder for each user who runs MacYTDL. It is automatically updated.

It is a customised version of the *DialogToolkitPlus* script library created by [Shane Stanley, AppleScript Guru Extraordinaire](#).

Send-URL-To-MacYTDL.workflow

This is a service created in Automator. It enables users to invoke MacYTDL from within other applications. It is stored in the MacYTDL bundle resources folder. When requested by the user, the installer copies it from there to the "~/Library/Services" folder for each user who runs MacYTDL. When running, the usual rotating wagon wheel icon will show in the "Status" menu bar. Each user's copy is automatically updated if it is installed.

Monitor.scpt

An AppleScript which handles downloads and shows progress. Having a separate script enables MacYTDL to download a number of videos at the same time. It is stored in MacYTDL bundle resources folder.

adviser.scpt

An AppleScript which tracks when a download has finished. If the download was 100% complete it pops a message accordingly. If not 100% complete or if an error is reported, it pops a message advising that there may have been a problem and provides option to open the related log file. It is stored in MacYTDL bundle resources folder.

Utilities.scpt

This file contains a number of AppleScript handlers which are called by the main script when required. Using a separate file for a number of handlers helps reduce crashes in my favourate AppleScript IDE. It is stored in the MacYTDL bundle.

Any comments, suggestions or better code ?

Although MacYTDL has been in development for over 3 years, I need all the help available. If you use MacYTDL please make contact especially if you have any comments or suggestions. Send an email to macytdl@gmail.com or post an issue on the MacYTDL GitHub page:

> https://github.com/section83/MacYTDL [logon required to post]

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AtomicParsley is protected by the GNU General Public License version 2.0 (GPLv2).

youtube-dl is in the public domain, which means you can freely use it, modify it or redistribute it.

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FFmpeg is a trademark of Fabrice Bellard, originator of the *FFmpeg* project. *FFmpeg* is licensed under the GNU Lesser General Public License (LGPL) version 2.1 or later.

Acknowledgements

Much is owed to Shane Stanley, for his many contributions solving problems with MacYTDL. Shane developed *Dialog Toolkit Plus* which provides the main dialogs in MacYTDL.

Ideas for this GUI front-end came from many sources including:

- "Tombs" (https://forum.videohelp.com/members/235982-Tombs) an active contributor to *Whirlpool* and author of the *URLDown Dropper* utility for Windows.

- Adam Albrec (game_creator@hotmail.com), author of *PPC Media Centre*.

- Michael Page (http://techion.com.au), author of the *Video Hoarder* automator script.

- "kopurando" (https://github.com/kopurando), author of the *Virga* downloader.

- "xplorr" (https://forum.videohelp.com/members/268051-xplorr), author of *TVDownloader*.

- Anonymous (https://cresstone.com/apps/youtubeDLFrontEnd/), for *youtubeDLFrontEnd*.

- Frank, John, Santo, Trevor and Walter fellow members of the ACT Apple Users Group.

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Code signing and notarization

MacYTDL is code signed by me and notarized by Apple. These are separate functions which improve the security of macOS applications. They reduce the likelihood that an application has been interfered with after it was issued by the developer.

Code signing is a process by which an application is "signed" with a certificate issued by Apple to the developer. macOS will not start an application that has been changed in any way after it is signed. Thus, there is some surety that the application has not be altered by another party eg. to add malicious code.

Notarization is an additional process in which a copy of the application is examined by Apple to ensure it is signed correctly and contains no malicious code. Apple's process is automated. It is not a formal review by an Apple developer. However, it does provide some comfort that Apple have checked the application and found nothing malicious.