

Guidelines for Craig JukeBox

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A. Setup Windows 10

The jukebox program is intended to be run with windows 10 home. However, any operation system with support for javascript, php, apache and ffmpeg is capable to run this software. Thus, this includes all linux, windows and BSD.

1. Install Windows

- Grab the windows 10 ISO file. Home or Pro version can be setup later.
- Download software like Rufus or Balena-Etcher to install the windows ISO into a pen-drive (minimum 8gb).
- Plug in the pen-drive and run through the windows installer.
- Online guide [here](#).

2. Update Windows and Microsoft Store

- The idea is to update the drivers to the latest version by admin as much as possible. Then, disable the windows update in order to prevent automatic windows updates corrupting the “C” drive. So, connect windows to the internet.
- Go to Settings > Update > Check for Updates.
- Update everything in sight. This process needs to be done 3-4 times after restart depending on how old the windows ISO was.
- Some updates only appear after certain version (cumulative updates) is installed, making it necessary to keep checking for updates after every restart.
- This process is completed once the update settings says “Already Up-to-Date” even after couple of restarts.
- Use the methodology to update the Microsoft Store multiple times until you see “Already Up-to-Date”. Several components needed for the software comes from Microsoft Store including WebRunTime.
- Please note, some updates for Windows are hidden under Settings > Updates > Advanced Options > Optional Updates. The options to install the updates will only pop-up once the hardware is plugged in. So, make sure to plugin the intended hardware for final jukebox whilst checking for this settings specifically.

3. Display Driver

- The software is touch-based primarily. However, a mouse can also be used while the system needs maintenance for admin.
- Check to see if the touch-screen monitor connected to the windows works by itself without having to install any additional drivers. Windows bundles the basic HID-compliant touch drivers into its ISO. So, most recent touch-screen should functions by itself.
- If not, try the method of finding hidden driver updates mentioned above from Settings > Updates > Advanced Options > Optional Updates. (Make sure wires are connected properly and internet is connected for this method).
- If the display still won't function, then the original driver that came in the box while purchasing the monitor must be used as a final resort.
- Please note, it is the sole responsibility of purchaser of the monitor to ensure the drivers are available to function with Windows 10 via CD-ROM or digital download.
- This method will be different for variety of displays possessed by Craig in his collection (15”, 17” and 19”). Make sure the drivers for all the different variety of displays are tested and installed into the master copy of SSD backup file.
- One driver might interfere with the functioning of the other display's driver. If this is case, simply disable the unnecessary drivers from Device-Manager and keep only the relevant driver for the display enabled.

4. Screen Resolution and Aspect Ratio

- The screen resolution is different for different monitors and their aspect ratio as well.
- This jukebox is designed to run on 16:9 aspect ratio. Depending on the quality of the monitor, the adjacent resolution will be 1280*720 (HD) or 1920*1080 (FHD) or 3840*2160 (UHD).
- Quad-HD (QHD or 1440p) remains untested. Although, a 2560*1440 monitor might just work as every other 16:9 aspect ratio monitors.

- Some consideration has been put into making jukebox styling for both 4:3 and 5:4 aspect ratio. The adjacent resolution for them will be default resolution pre-configured by windows. e.g. 1280*1024 or 1280*1200.
- Every minute CSS styling is done 16:9 aspect ratio. Thus, it is strongly recommended to use above mentioned HD, FHD or UHD based resolution to avoid styling glitches for any monitor.
- Please note, not all resolution will be available with "Microsoft Generic Display Driver". Update the graphics driver manually in that case to latest version via Device-Manager > Display > Monitor.
- Internet Connection is needed for above method. Search for Intel / AMD for integrated graphics (iGPU) or Nvidia / AMD for discrete graphics (dGPU).

5. Disable Windows Updates & Notifications

- Inside the Settings > Updates menu. Disable all the 4 sliders available regarding updates. Make sure to follow the steps mentioned above in Section - A.2 before disabling windows update.
- Press Windows + R to open "RUN" box and type "services.msc". Scroll down to Windows Update and set its startup type to "Disabled".
- Go to Windows settings for notifications and disable all of the sliders.

6. Power Settings

- Set the computer sleep and display off settings from 15 mins to "Never" for all 4 options (both plugged-in and battery).
- Set the computers Do-Not-Disturb (DND or Focus Mode) to Always-On.
- Set the computer power plan to "High Performance" instead of "Balanced" by going to the "powercfg.cpl" in RUN box.

7. Looks and Feel

- Activate the windows if possible to activate the personalisation option in settings.
- Set the windows theme to dark for both options. Doing so, also makes taskbar black.
- Either disable the wallpaper functionality or use a black image as a wallpaper. **Reason:** Gives the fake perception of windows booting straight into jukebox instead of user having to see the windows desktop first.
- Also, hide the desktop icons (right click in main desktop for the options to hide it).
- Set the taskbar theme to black and transparent. Make taskbar location to "TOP" instead of "BOTTOM". This causes taskbar to not popup after the boot-up.
- Please note, taskbar can also be completely removed by using custom shells for windows or 3rd-party application.

8. Setup 2nd user's account & Auto-login

- Windows installer should create a default admin account. Keep a note of admin password.
- Create a secondary user's account in windows. Guide [here](#).
- Add only that 2nd user account to auto-login into windows. DON'T add the primary admin account to the auto-login. Guide [here](#).

9. Lock the htdocs folder

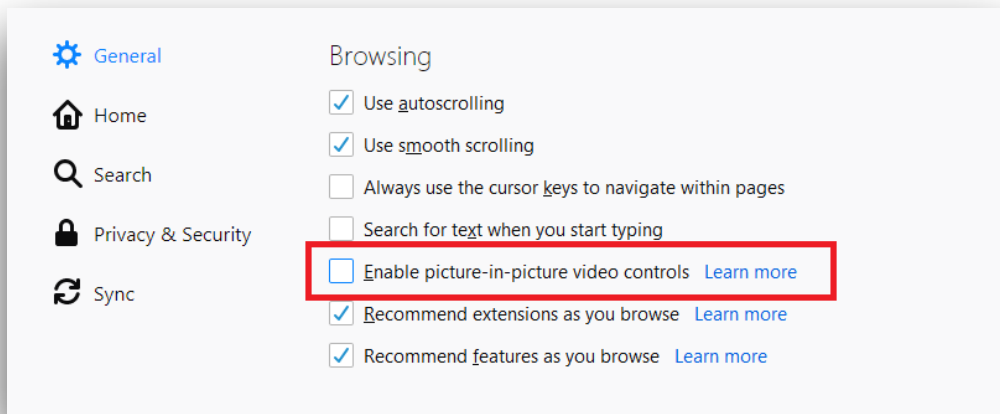
- Later in the guide, while setting up the apache it provides htdocs folders.
- In the properties tab of the htdocs folder, remove the unnecessary permissions to 2nd user created in above step including write and modify.
- Guide [here](#).

B. Setup Firefox

Install the provided Firefox v105 using regular installer. However, newer versions downloaded might work as well.

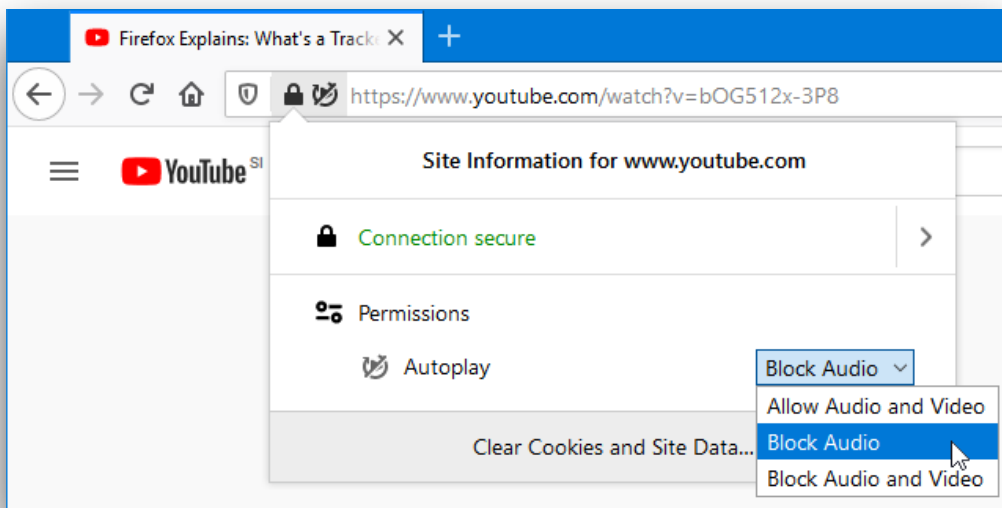
1. Disable PiP

- On setting search for "picture in picture" and disable the option to show pip.



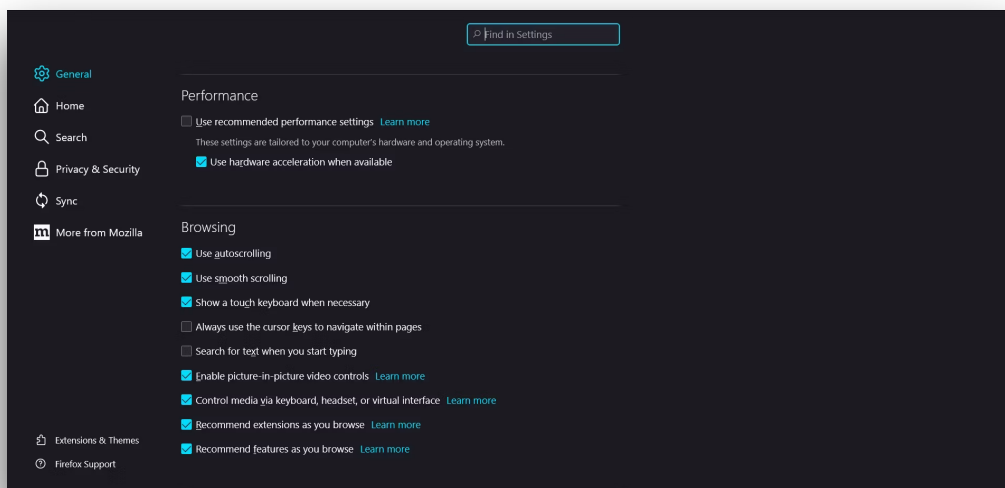
2. Enable Autoplay

- Enable autoplay for “video and sound” for “localhost”. This step can only be done once apache is setup and jukebox software is running.



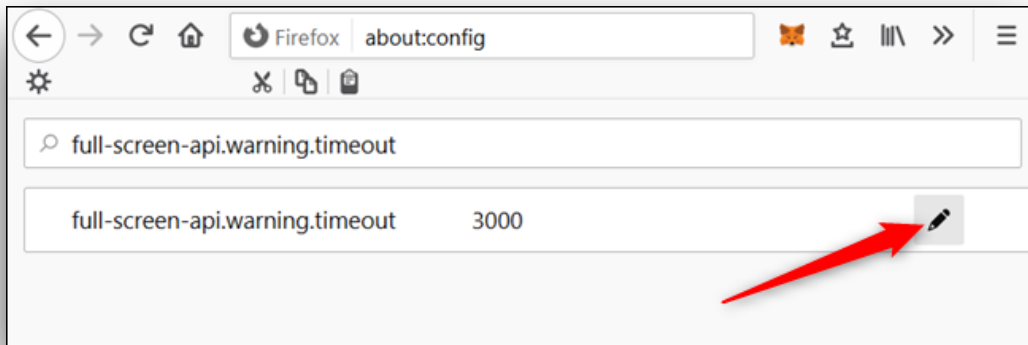
3. Enable Hardware Acceleration

- Go to Settings > General > Performance.
- Uncheck the box next to “Use recommended performance settings”.
- Then click on new popup option “Use hardware acceleration when available”.



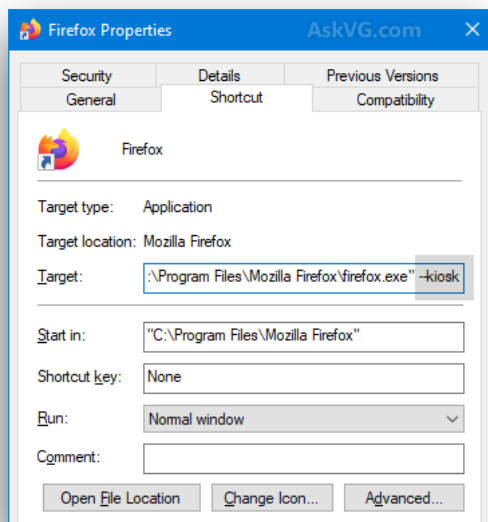
4. Disable Fullscreen Pop-Up

- Go to “about:config” on a new tab
- Set value of “full-screen-api.warning.timeout” = 0



5. Auto-Start Firefox on Boot-Up

- Create a **shortcut** of Firefox on a folder somewhere.
- Right-click on properties > Shortcut > Target. Add “-kiosk localhost” at the end.
e.g. path\firefox.exe -kiosk localhost
- Guide to Firefox’s kiosk mode [here](#).



- Type “Shell:common startup” in path bar of File Explorer. And, move the previously created shortcut of Firefox in this folder.
- Remember, move the shortcut of “Firefox.exe” with kiosk parameter added. Not the original “Firefox.exe” itself.

C. Setup Services

The services required for the jukebox software needs **javascript** which comes bundles with browser itself (Firefox in this case), a web hosted by **Apache**’s httpd services , **PHP** as a file fetcher or backend via Apache and **FFMpeg** to generate thumbnails for songs (only needs for the batch file - provided separately).

1. Apache Setup

- Apache requires the Visual C++ Redistributable. So, install the provides vc_redist_x64 and vc_redist_x32. Install them from provided file.

- Copy the apache folder provided exactly as it in the root level of “C” drive.
- Add the path “C:\Apache24\bin” to the system variable. (Path’s name may not be exact).
- Guide to add binary file location to system variable [here](#).
- Check if apache works using terminal. Type “httpd”. If console throws error saying unknown command means apache “bin” file wasn’t added to the PATH of system variables.
- Install apache to system to make sure it auto-runs on boot. Go to C:\apache\bin in terminal and type “httpd -k install”.
- Guide on further understanding on Apache and PHP [here](#).

2. PHP Setup

- Copy the PHP folder provided exactly as it in the root level of “C” drive.
- Add the path “C:\php81” to the system variable. (Path’s name may not be exact).
- Check if php works using terminal. Type “php”. If console throws error saying unknown command means php folder wasn’t added to the PATH of system variables.

3. FFMpeg Setup

- Copy the FFMpeg folder provided in the root level of “C” drive. Any other newer FFMpeg version may be for this as long as path for system variables is added correctly.
- Add the path “C:\ffmpeg\bin” to the system variable. (Path’s name may not be exact).
- Check if FFMpeg works using terminal. Type “ffmpeg”. If console throws error saying unknown command means FFMpeg bin folder wasn’t added to the PATH of system variables.