PiJukebox

A complete manual to running the software with the least amount of work

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# Prerequisites

This manual is written assuming certain hard- and software components are present, installed, configured and functional. There is no GUI context in working with this manual, because PiJukebox is a system that is not meant to be locally operated. Instead, the project should be deployed and controlled through the Web interface.

The PiJukebox is created to be run on a Raspberry Pi 3 model B or later. It was written in Java, with a Polymer.JS front-end and can therefore be deployed on any system that can run the software requirements. It is assumed a Raspberry Pi with the latest stable Raspbian Lite image is used.

## Hardware requirements

A Raspberry Pi 3 model B or B+ for guaranteed functionality. A later version or better hardware for increased performance, with power supply and at least 8GB of available storage space. Required to run the program and ensure there is enough storage space.

An available network with a connection to the internet. This is required to download, compile, package and install the program.

Either a complete set of peripherals (Screen, Audio hardware and Keyboard) **OR** a set of speakers and a secondary system with an SSH client. This is required for controlling the Pi.

## Software requirements

Any form of a Git client (Raspbian Lite includes the "git" binary by default). This is required to download the source packages.

Maven version 3.6 or higher. This is required to build and run the project in a seamless manner.

Polymer.JS version 3.0 or higher. This is required to offer the remote controller via a browser-interface.  
 Polymer.JS requires npm and Node.JS, consult the [Polymer](https://polymer-library.polymer-project.org/) website, go to Guides > Install.

MySQL version 5.0 or higher. This is required for the data storage of the application.

FFProbe, this is required to extract metadata from the mp3 media in the system.  
 FFProbe is part of FFMpeg and can be found in apt or at the [FFMpeg](ffmpeg.org) website.

The Oracle Java 8 JDK. This is required for both Maven and the PiJukebox to run.  
 The JDK is needed to build the software and includes the JRE required to run it.

An SSH server if not using a screen and keyboard. This is required to control the Pi and run the software.

It is assumed throughout this guide that the user is familiar enough with these programs to use them independently. If the user isn't, the backend and REST API can be started through the provided script and the user need only to follow a guide on working with Polymer.

# Obtaining and running the software

Obtain the software by running:

git clone <https://github.com/FokjeM/PiJukebox/tree/master> --single-branch master

This will download the PiJukebox source code into whatever directory this has been executed.

Once the repository has been downloaded successfully, the code can be compiled and packaged by Maven. Maven will even deploy it on a local Tomcat server without the need to install one. Tomcat will even use the installed JDK to run in.

This process can be done in several ways, the easiest is to use the run the startup script or execute:

cd PiJukebox/Backend/ && mvn clean && mvn package && mvn cargo:run &

This also sends the process to the background so the command line is available to start the Polymer.JS front-end with:

cd PiJukebox/Frontend/ && polymer serve

Now both the front-end and back-end should be up and running.