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## Installing JMRI on Raspberry Pi OS

These instructions describe the installation of Java 11 and JMRI 5+ on a Raspberry Pi system running the **Raspberry Pi OS**. The install process uses the general Linux instructions at [Linux Install](#) ([Linux.shtml](#)) . Raspberry PI specific activities are on this page.

The original version of this page is at [JMRI on Raspbian](#) ([Raspbian.shtml](#)) . Be aware that much of the information on the old page is obsolete.

The Raspberry Pi is becoming increasingly popular as a small and cheap computer. Raspberry Pi OS is based on Debian and is recognized as being a very user friendly distribution.

### Pre-Built Image Available

- A free RaspberryPi image, completely configured with JMRI, auto-identify logic for many popular DCC systems and its own wifi access point, is available for download [\[here\]](#) (<https://mstevetodd.com/rpi>) .

### Installation Steps

Follow the steps at [Linux Install](#) ([Linux.shtml](#)) to install Java and JMRI on a Raspberry Pi running either **Raspberry Pi OS** or Raspbian.

Note: The information for installing **Raspberry Pi OS** on a Raspberry Pi is available at [Raspberry Pi Documentation](#) (<https://www.raspberrypi.com/documentation/>) .

### Post Install Activities Raspberry Pi Configuration

If the Raspberry Pi will not have a display, keyboard and mouse, it can use a virtual VNC (Virtual Network Computing) interface. The RealVNC server is included in Raspberry Pi OS.

This can be enabled by selecting **Preferences** ⇒ **Raspberry Pi Configuration** from the Raspberry start menu. In the **Interface** tab select **VNC** . For remote terminal access using **ssh** also enable **SSH** .

### Autostart

To automatically start the GUI version of PanelPro or DecoderPro during startup, add a symbolic link to the desktop icon.

```
cd ~/.config mkdir autostart (might not exist) cd autostart ln -s
~/Desktop/PanelPro.desktop PanelPro.desktop
```

## Faceless

The Linux install of JMRI includes a **JmriFaceless** application. This is a minimal application with no GUI windows. Since there are no JMRI windows, everything must be configured using DecoderPro and PanelPro.

## Faceless setup using PanelPro

1. Create a Faceless profile using **Preferences** ⇒ **Config Profiles**. Save and restart with new profile.
2. Configure the Connection and Start Up preferences.
3. Copy **PanelProConfig2.properties** to **JmriFacelessConfig3.properties** .
4. Check JmriFacelessConfig3.properties. The **autoStart** key must be true: `<entry key="autoStart">true</entry>`
5. Starting JmriFaceless
  - Connect using ssh and enter `~/JMRI/JmriFaceless`
  - Start using a ssh remote command: `ssh <user>@<ip address> /home/<user>/JMRI/JmriFaceless &`
  - Add a line to the rc.local file before the **exit 0**: `sudo -u <user> /home/<user>/JMRI/JmriFaceless &`

## Shutdown

Normally, the Raspberry Pi is shut down using the desktop application menu, either with a monitor, mouse and keyboard or via VNC. It can also be shut down by logging with ssh and doing a terminal command, `sudo shutdown -h now`, or doing a ssh remote command.

In JMRI, a Logix/LogixNG can be used to invoke the ShutdownOS Jython script.

LogixNG has a Shutdown action. This example uses a sensor that can be set from a browser connected to the JMRI Web Server.

```
LogixNG: Shutdown ConditionalNG: Shutdown ! A If Then Else. Execute on
change ? If Sensor Shutdown is Active ! Then Shutdown JMRI/computer: Shut
down the computer ! Else
```

Thanks and congratulations to **all who contributed**

(<http://www.mozilla.org/help/en/Acknowledgements.shtml>) ! Contact us via the **JMRI users**

(<https://groups.io/g/jmriusers>) Groups.io group.

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