# Setup Raspberry PI for Pinewood Derby

# **Build Image for Kiosk**

1. Launch Raspberry Pi Imager

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1. Select Raspberry Pi OS (other)

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1. Select Raspberry Pi OS (64-bit)

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1. Click CHOOSE STORAGE.

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1. Select Mass Storage Device

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1. Click on the Cogwheel.

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1. Set the following settings:
   1. Set Hostname
   2. Enable SSH
      1. Use password authentication
   3. Set username and password
      1. Username: kadmin
      2. Password: pack442
   4. Set locale settings
      1. Timezone: America/Chicago
      2. Keyboard layout: US
2. Click Save.

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1. Click **Write.**

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1. Click Yes

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1. Click Continue, remove USB adapter

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1. You can now put the sd card into the raspberry pi and boot off it.

# **Post Install Configuration**

## Configure Network at Book

1. **Login using the username / password from the previous step.**
2. **Click on the Menu > Preferences > Raspberry Pi Configuration.**

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1. Click **System > Network at Boot**.
2. Click so the button moves to the right.

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## Configure Localization

1. Click **Localisation**
2. Click **Locale..**
3. Ensure the locale is set correctly **>** Click **OK**.

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1. Click **Set Timezone**..
2. Confirm the Area and Location is set right > Click **OK**.

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1. Click **Set WiFi Country**.
2. Make sure Country is set right > Click **OK** > Click **OK**.

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1. System may require a reboot, go ahead, and reboot the device.

## Configure Wifi

1. Click on the Network Setting in the Top right corner.
2. Select the WIFI SSID to connect to.

**NOTE**: It may take a few minutes for it to see SSID.

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1. Type the Pre Shared Key > Click **OK**.

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1. You can now disconnect the hardwire connection.

## Configure VNC

1. **Click Menu > Preferences > Raspberry Pi Configuration > Interfaces.**

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1. Click **Interfaces** > Click **VNC Button** so it moves to the right.
2. Click **OK**.

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# **Chrome Configuration**

## Install Chrome Browser

1. Open terminal and type the following:

sudo apt update -y

sudo apt full-upgrade -y

sudo apt install chromium-browser -y

## Setup Chrome to start on xServer Start

1. Next, you’ll need to configure the Chromium browser to open websites in full screen. Open a terminal and type this to get to the configuration setting:

cd .config

1. That should open the hidden configuration directory in your Pi user directory. Next, create the lxsession and lxde-pi directories. If you receive an error, then this folder already exists but if you’re setting up a brand new Pi – it won’t be there yet.

sudo mkdir -p lxsession/LXDE-pi

1. This next line opens a folder called autostart.

sudo nano lxsession/LXDE-pi/autostart

1. Paste the code below into the nano text editor. On the very last line, change the URL to the website you want to automatically open on startup or after a reboot.

@lxpanel --profile LXDE-pi

@pcmanfm --desktop --profile LXDE-pi

#@xscreensaver -no-splash

point-rpi

@chromium-browser --start-maximized https://pack442.coughlinfam.com

1. Press **CTRL+X** to exit the nano text editor. Then press**Y,** then **Enter** to accept and save the “autostart” file.

## Configure Chrome default URL

1. Open Chromium. (If already maximized, click the X first.)
2. Click the 3 dots on the far right to Customize and control Chromium.
3. **Settings > On Startup >** Open a specific set of pages.
4. Site Url: **https://pack442.coughlinfam.com**.

# **Configure xscreensaver**

## Install xscreensaver

1. To install**xscreensaver**, open a terminal and type:

sudo apt-get install xscreensaver -y

1. When it asks if you want to continue, click **Y** and press the **Enter** key for yes.
2. **Reboot your raspberry pi**, type this command:

sudo reboot now

1. After rebooting, login using the username / password. Then click the **Raspberry Pi icon > Preferences > Screensaver**. A message will pop up letting you know a daemon isn’t running. Click **OK**.
2. In the Screensaver preferences box, change the mode to **Disable Screensaver.**

A screen shot of a screen

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1. **Close the window and reboot the raspberry pi again.** If the raspberry pi doesn’t go to sleep after 30 minutes, you have successfully disabled screen blanking on it!

## Configure xset for blank screen

1. Next, you’ll need to configure the Chromium browser to open websites in full screen. Open a terminal and type this to get to the configuration setting:

cd .config

1. This next line opens a folder called autostart.

sudo nano lxsession/LXDE-pi/autostart

1. Paste the code below into the nano text editor.

Between #@xscreensaver -no-splash and point-rpi.

@xset s off

@xset -dpms

@xset s noblank

1. Press **CTRL+X** to exit the nano text editor. Then press**Y,** then **Enter** to accept and save the “autostart” file.

# **Install conky**

1. To install**conky**, open a terminal and type:

sudo apt install conky -y

git clone https://github.com/jxai/lean-conky-config /conky

sudo git clone https://github.com/jxai/lean-conky-config /conky

sudo nano ~/.config/lxsession/LXDE-pi/autostart

1. Add the following line to the end of the file:

/conky/start-lcc.sh

1. Press **CTRL+X** to exit the nano text editor. Then press**Y,** then **Enter** to accept and save the “autostart” file.
2. Type the following commands:

cd /conky

sudo cp local.conf.example local.conf

1. Type the following command to update the local.conf:

sudo nano local.conf

1. Comment out the following lines using the double dash:

-- { "cpu", { top\_n = 3 } }, -- change number of top entries, up to 10

-- { "memory", { top\_n = 3 } },

-- { "gpu.nvidia", { top\_n = 3 } }, -- uncomment to monitor Nvidia GPU, `pip install pynvml` first

-- { "storage", { top\_n = 3 } },

-- { "vspace", -20 }, -- adjust trailing space at the bottom, use negative value to trim

1. Press **CTRL+X** to exit the nano text editor. Then press**Y,** then **Enter** to accept and save the “local.conf” file.
2. Reboot the raspberry pi again.

# **Install NTP**

1. Type **sudo apt-get update** and press **Enter**.
2. Type **sudo apt-get install ntp** and press **Enter**.

sudo apt-get update

sudo apt-get install ntp

1. This completes the setup of the Raspberry PI, you can shutdown the device.