

Instruções gerais (SO baseados no Debian)

Atualização inicial (root)

```
$ sudo apt update -y && sudo apt upgrade -y
```

Instalando pacotes necessários (**root**)

```
$ sudo apt install curl && sudo apt update && sudo apt upgrade -y && sudo apt install -y  
build-essential git cmake pkg-config gcc g++ make && curl -sL  
https://deb.nodesource.com/setup\_10.x | bash - && sudo apt install -y nodejs libcairo2-dev  
libpango1.0-dev libjpeg-dev libgif-dev librsvg2-dev libtiff5-dev libpng-dev libavcodec-dev  
libavformat-dev libswscale-dev libv4l-dev libxvidcore-dev libx264-dev libfontconfig1-dev  
libcairo2-dev libgdk-pixbuf2.0-dev libpango1.0-dev libgtk2.0-dev libgtk-3-dev  
libatlas-base-dev gfortran libusb-1.0-0-dev libudev-dev libusb-0.1 x11vnc rsync connman  
python-dev avahi-daemon avahi-discover avahi-utils libnss-mdns mdns-scan nginx tmux  
v4l-utils acpid
```

Desabilitando atualização automática da hora (root)

edit o arquivo /var/lib/connman/settings

```
[global]  
OfflineMode=false  
TimeUpdates=manual  
TimezoneUpdates=manual
```

```
[Bluetooth]  
Enable=false  
Tethering=false
```

```
[Wired]  
Enable=true  
Tethering=false
```

Se o auto complete não funcionar

```
sudo apt-get install bash-completion
sudo vim /etc/bash.bashrc
descomenta todo o bloco:
# enable bash completion in interactive shells
desloga e loga
```

Criando usuário if

```
$ sudo adduser -m if
$ sudo passwd if //senha padrão interlaken
$ sudo usermod -aG sudo if
```

Checkout do desktopif e instalando pacotes (usuário if)

Branch Master

```
$ git clone git@bitbucket.org:if\_linux/desktopif.git && cd desktopif && git fetch && npm install
```

Configurando acesso remoto (root)

```
sudo chmod 600 ~/desktopif/jumper.pem
//evitar pergunta pra add host, add "StrictHostKeyChecking no" no //ssh_config
sudo su
echo "StrictHostKeyChecking no" >> /etc/ssh/ssh_config
//reinicia ssh
service ssh restart
//sai do su
exit
```

Configurando nginx

```
$ ~/desktopif/setup/distros/linux/configure-nginx.sh
```

Checkout da interface em HTML (opcional, usuario if)

```
desktopif/environment $ git clone git@bitbucket.org:if\_linux/desktopif-interface-smartfit.git  
Desktop
```

~~Griando pasta para build do QtCreator~~

```
sudo mkdir /opt/Smartfit && sudo chmod 777 /opt/Smartfit
```

~~Alterar e publicar na ethernet o hostname~~

O desktopif apartir da versao 2.1.1 já altera o hostname para o nome do dispositivo definido nas configuracoes

Asus tinker board

```
$ sudo su
```

```
$ echo "desktopiftkb" > /etc/hostname
```

```
$ echo -e "127.0.0.1 localhost\n::1          localhost ip6-localhost ip6-loopback\n          ip6-localnet\nff00::0          ip6-mcastprefix\nff02::1\nip6-allnodes\nff02::2          ip6-allrouters\n127.0.1.1        desktopiftkb" > /etc/hosts
```

```
$ sudo reboot
```

Raspberry

```
$ sudo su
```

```
$ echo "desktopifrpi" > /etc/hostname
```

```
$ echo -e "127.0.0.1    localhost\n::1    localhost ip6-localhost ip6-loopback\nff02::1\nip6-allnodes\nff02::2    ip6-allrouters\n127.0.1.1    desktopifrpi"> /etc/hosts
```

```
$ sudo reboot
```

OrangePi

```
$ sudo su
```

```
$ echo "desktopifopc" > /etc/hostname
```

```
$ echo -e "127.0.0.1    localhost desktopifopc\n::1    localhost desktopifopc ip6-localhost\nip6-loopback\nfe00::0    ip6-localnet\nff00::0    ip6-mcastprefix\nff02::1\nip6-allnodes\nff02::2    ip6-allrouters" > /etc/hosts
```

```
$ sudo reboot
```

OrangePi PC PLus

```
$ sudo su
```

```
$ echo "desktopifopcplus" > /etc/hostname
```

```
$ echo -e "127.0.0.1    localhost desktopifopcplus\n::1    localhost desktopifopcplus\nip6-localhost ip6-loopback\nfe00::0    ip6-localnet\nff00::0    ip6-mcastprefix\nff02::1\nip6-allnodes\nff02::2    ip6-allrouters" > /etc/hosts
```

```
$ sudo reboot
```

Desabilitando wifi

```
sudo nmcli radio wifi off
```

Qt: Desinstalando pacotes obsoletos

```
sudo apt-get remove -y libqt5concurrent5 libqt5core5a libqt5dbus5 libqt5gui5  
libqt5multimedia5 libqt5multimedia5-plugins libqt5multimediaquick-p5  
libqt5multimediawidgets5 libqt5network5 libqt5opengl5 libqt5printsupport5 libqt5qml5  
libqt5quick5 libqt5sql5 libqt5test5 libqt5widgets5 libqt5xml5  
qml-module-qt-labs-folderlistmodel qml-module-qtaudioengine qml-module-qtmultimedia  
qml-module-qtquick2 qt5-qmake qtbase5-dev qtbase5-dev-tools qtchooser  
qtmultimedia5-dev qtmultimedia5-doc qtmultimedia5-doc-html qtmultimedia5-examples
```

Qt: Instalando pacotes novos

```
cd /usr/local && wget  
https://integraos-packages.s3.amazonaws.com/qt-5.13.2-tinkerboard.tar && tar -xvf  
qt-5.13.2-tinkerboard.tar
```

Definindo variáveis de ambiente

```
vim ~/.profile  
adicione ao final do arquivo  
export LD_LIBRARY_PATH=/usr/local/Qt-5.13.2/lib  
export DISPLAY=:0.0  
usando o frame buffer, mas nao recomendado  
xrandr --fb 1024x600 -display :0
```

Ativando servidor gráfico (para uso com display)

```
sudo armbian-config  
menu: system/Default
```

mudar o logo do desktop

Esconder menus da barra de tarefa

editar o arquivo:

```
sudo vim /etc/xdg/xfce4/xfconf/xfce-perchannel-xml/xfce4-session.xml
```

comentar: propriedade -> Client2_Command

```
<!--  
  <property name="Client2_Command" type="array">  
    <value type="string" value="xfce4-panel"/>  
  </property>  
-->
```

Configurando HDMI resolution (ainda não testei)

baseado em <https://tinkerboarding.co.uk/wiki/index.php?title=HDMI-resolution> configurado para 1024x600

edite o arquivo /etc/X11/xorg.conf.d/20-modesetting.conf e deixe o conteúdo dessa forma, com a indentação:

```
Section "Device"  
    Identifier "Rockchip Graphics"  
    Driver     "modesetting"  
    Option     "AccelMethod"    "glamor"  
    Option     "DRI"            "2"  
EndSection  
Section "Monitor"  
    Identifier "Monitor 0"  
    Modeline "1024x600_60.00"  49.00  1024 1072 1168 1312  600 603 613 624 -hsync  
+vsync  
EndSection  
Section "Screen"  
    Identifier "Default Screen"  
    Monitor "Monitor 0"  
    SubSection "Display"  
        Depth 24  
        Modes "1024x600"  
    EndSubSection  
EndSection  
  
reinicie  
sudo reboot
```

para testar se a variável foi setada corretamente, digite `echo $LD_LIBRARY_PATH`

Configurar serial 3 (ttyS3) para uso do leitor QRCODE - E21W

OrangePi

`sudo armbian-config`

menus: System/Hardware

Selecionar opção: uart3

salvar e reiniciar

Atualizações dos sistemas

Desktopif

2.1.r1

`# ~/desktopif`

`## reinstala o modulo da plc-gpio`

`rm -rf node_modules/plc-gpio`

`npm install plc-gpio`

`## atualiza o nginx`

`sudo ./setup/distros/linux/configure-nginx.sh`

OBS: em caso de uso, o serviço do preface precisa estar na última versão

Desabilitando botão Power

altere o arquivo

`/etc/systemd/logind.conf`

descomente a linha

```
#HandlePowerKey=poweroff  
e altere o valor para ignore.  
HandlePowerKey=ignore
```

Salve o arquivo. Execute o script da distro para adicionar uma ação quando o botão power for pressionado:

Orange

```
/home/if/desktopif/setup/distros/orangepi/common-install.sh
```


Raspberry

Do zero

Download do Raspbian Buster Lite em <https://www.raspberrypi.org/downloads/raspbian/>

Depois de descompactar a imagem, adicione um arquivo sem conteúdo e sem extensão no diretório do boot, chamado ssh

Grave a imagem no sdcard com o balena etcher

Insira o sdCard no rasp

conecte por ssh usando `ssh pi@raspberrypi.local`, senha padrão: raspberry

assim que fizer o login, execute

`sudo apt update && sudo apt upgrade -y`

Configurações pelo raspi-config

`sudo raspi-config`

no menu principal selecione a opção "1 - Change user password" pressionando 'Enter', informe a nova senha "r00t", confirme a nova senha

ao voltar para o menu principal selecione a opção "5 - Interface Options..", e selecione "P3 VNC" e pressione 'Enter', confirme a habilitação do vnc server

ao voltar para o menu principal selecione a opção '8 - Update' e pressione 'Enter' e aguarde a instalação

desabilite o descanso de tela em

7 - Advanced Options > A6 Screen Blanking > No

pressione Esc para sair do raspi-config

execute o comando abaixo para reiniciar

`sudo reboot`

ao reiniciar reconecte

Qt: Instalando pacotes

```
sudo apt-get install -y libqt53dcore5:armhf libqt53dinput5:armhf libqt53dlogic5:armhf  
libqt53dquickscene2d5:armhf libqt53drender5:armhf libqt5concurrent5:armhf  
libqt5core5a:armhf libqt5dbus5:armhf libqt5designer5:armhf  
libqt5designercomponents5:armhf libqt5gui5:armhf libqt5help5:armhf libqt5network5:armhf  
libqt5opengl5:armhf libqt5opengl5-dev:armhf libqt5positioning5:armhf  
libqt5printsupport5:armhf libqt5qml5:armhf libqt5quick5:armhf libqt5quickcontrols2-5:armhf  
libqt5quickparticles5:armhf libqt5quicktemplates2-5:armhf libqt5quicktest5:armhf  
libqt5quickwidgets5:armhf libqt5script5:armhf libqt5sensors5:armhf libqt5serialport5:armhf  
libqt5sql5:armhf libqt5sql5-sqlite:armhf libqt5svg5:armhf libqt5test5:armhf  
libqt5webchannel5:armhf libqt5webchannel5-dev:armhf libqt5webengine-data  
libqt5webkit5:armhf libqt5webkit5-dev:armhf libqt5websockets5:armhf libqt5widgets5:armhf  
libqt5xml5:armhf libqt5xmlpatterns5:armhf python3-pyqt5 python3-pyqt5.qtopengl  
python3-pyqt5.qtquick python3-pyqt5.qtsql python3-pyqt5.qtwebkit qdoc-qt5  
qml-module-qt-websockets:armhf qml-module-qtgraphicaleffects:armhf  
qml-module-qtqml-models2:armhf qml-module-qtquick-controls:armhf  
qml-module-qtquick-controls-styles-breeze qml-module-qtquick-controls2:armhf
```

```
sudo apt-get install -y qml-module-qtquick-dialogs:armhf qml-module-qtquick-extras:armhf  
qml-module-qtquick-layouts:armhf qml-module-qtquick-localstorage:armhf  
qml-module-qtquick-particles2:armhf qml-module-qtquick-privatewidgets:armhf  
qml-module-qtquick-scene2d:armhf qml-module-qtquick-scene3d:armhf  
qml-module-qtquick-shapes:armhf qml-module-qtquick-templates2:armhf  
qml-module-qtquick-virtualkeyboard:armhf qml-module-qtquick-window2:armhf  
qml-module-qtquick-xmlListModel:armhf qml-module-qtquick2:armhf qml-module-qttest:armhf  
qml-module-qtwebchannel:armhf qml-module-qtwebsockets:armhf qt3d5-doc qt5-assistant  
qt5-default:armhf qt5-doc qt5-gtk-platformtheme:armhf qt5-qmake:armhf qt5-qmake-bin  
qt5-qmltooling-plugins:armhf qtbase5-dev:armhf qtbase5-dev-tools qtbase5-doc  
qtcharts5-doc qtchooser qtconnectivity5-doc qtcreator qtcreator-data qtcreator-doc  
qtdeclarative5-dev:armhf qtdeclarative5-dev-tools qtdeclarative5-doc qtdeclarative5-doc-html  
qtdeclarative5-examples:armhf qtdeclarative5-private-dev:armhf qtgraphicaleffects5-doc  
qtlocation5-doc qtmultimedia5-doc qtquickcontrols2-5-doc qtquickcontrols5-doc  
qtquickcontrols5-doc-html qtquickcontrols5-examples:armhf qtscript5-doc qtsensors5-doc  
qtserialport5-doc qtsvg5-doc qttools5-dev-tools qttools5-doc qttranslations5-l10n  
qtvirtualkeyboard5-doc qtwayland5-doc qtwebchannel5-do c qtwebengine5-doc  
qtwebsockets5-doc qtwebview5-doc qtx11extras5-doc qtxmlpatterns5-dev-tools  
qtxmlpatterns5-doc
```

Copiando binário Qt para Raspberry

Compilar projeto interface-smart-qt

(https://bitbucket.org/if_linux/interface-smart-qt/src/master/) com toolchain ARM e copiar para:

/opt/Smartfit/bin/

Instalando serviço para interface gerada pelo qt

```
sudo cp ~/desktopif/raspberry-services/qt.service /etc/systemd/system && sudo systemctl  
enable qt.service && sudo systemctl start qt.service
```

Instalação do Teamviewer

Tutorial completo: <https://pimylifeup.com/raspberry-pi-teamviewer/>

wget https://download.teamviewer.com/download/linux/teamviewer-host_armhf.deb

```
sudo dpkg -i teamviewer-host_armhf.deb
```

```
sudo apt --fix-broken install
```

Mudando senha do teamviewer

```
sudo teamviewer passwd VncB10
```

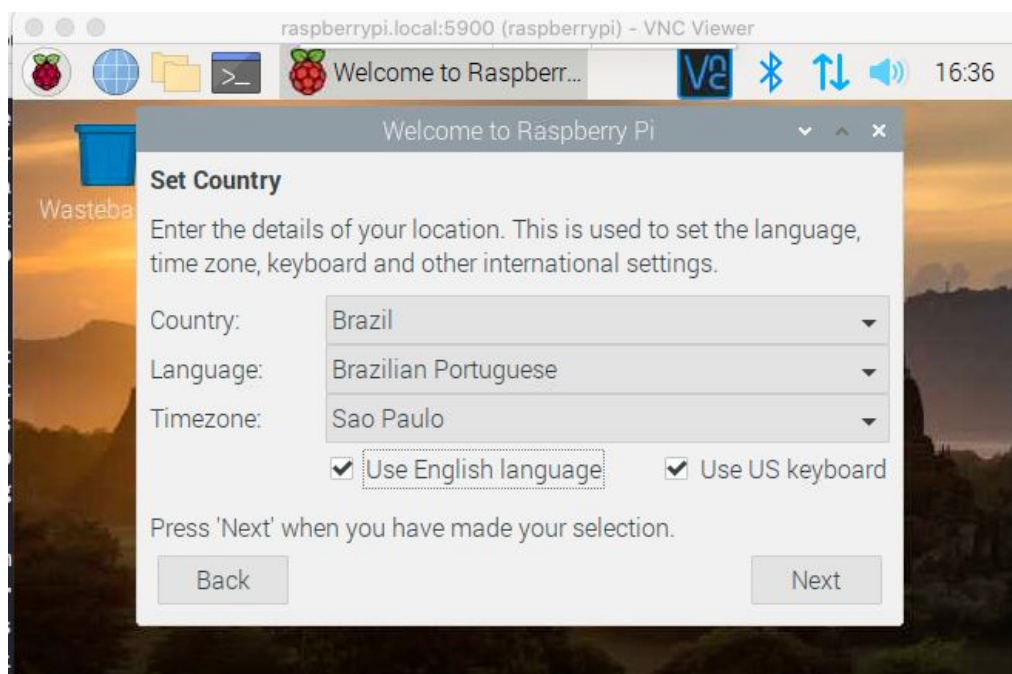
<https://help.realvnc.com/hc/en-us/articles/360002249917-VNC-Connect-and-Raspberry-Pi#operating-vnc-server-at-the-command-line-0-6>

Testando conexão com o vnc

Cliente VNC para Desktop: <https://www.realvnc.com/en/connect/download/viewer/linux/>

Com um cliente do vnc, conecte em raspberrypi.local:5900, configure para usar o usuario 'pi' e a senha 'root'

configure como a imagem abaixo e clique em Next



feche a proxima janela



Arquivos de Boot de Configuração Device Tree/Kernel

Removendo Gráficos do Boot e mensagens de debug

Retirando Ícone Cereja do Boot:

Adiciona no arquivo (/boot/cmdline.txt):

```
logo.nologo vt.global_cursor_default=0 plymouth.enable=0
```

Remover Arco Iris Boot

Adicionar no arquivo (/boot/config.txt):

```
disable_splash=1
```

Alterando a resolução do rasp

editar o arquivo /boot/config.txt

```
sudo nano /boot/config.txt ou sudo vim /boot/config.txt
```

abaixo de

```
# uncomment if hdmi display is not detected and composite is being output
hdmi_force_hotplug=1
```

```
# uncomment this if your display has a black border of unused pixels visible
# and your display can output without overscan
disable_overscan=1
```

```
# uncomment to force a specific HDMI mode (this will force VGA)
hdmi_cvt=1024 600 60 3 0 0 0
hdmi_group=2
hdmi_mode=87
```

fonte: <https://www.raspberrypi.org/forums/viewtopic.php?t=14914>

Adicionado Touchscreen Display EDT_FT5x06(Chinês Tonny):

Copiar binario presente em desktopif/raspberrypi-service/edt_ft5x06.dts para
/boot/overlays

```
sudo cp ~/desktopif/raspberry-services/edt_ft5x06.dto /boot/overlays/
```

Adicionar no arquivo /boot/config.txt:

```
dtoverlay=edt_ft5x06
```

descomentar no arquivo /boot/config.txt:

```
dtparam=i2c_arm=on
```

Desabilitando Wifi e Bluetooth

```
sudo connmanctl disable wifi
```

```
sudo connmanctl disable bluetooth
```

Removendo Task Bar Desktop X11

Editar Arquivo:

```
sudo vim /etc/xdg/lxsession/LXDE-pi/autostart
```

```
#@lxpanel --profile LXDE-pi
```

Orange Pi PC

Particionar SD Card

First

```
$ fdisk -l
```

and you should know the partition name...

and in my case..

```
$ fdisk -c /dev/mmcblk0
```

input 'p'

and show information of partition...

may be.....taget partition is 2.....

input "d" -> deldet partition....

input "2" -> target delete partition...

input "np" -> set new partition information...

input "p" -> set primary

input "2" -> target partition...

and input first sector number.....

(above...you type "fdisk -l" and find that number (/dev/mmcblk0p2 's start number)

and request last sector....and push enter key....

and input "w" -> write partition information....

System show errorignore....

\$ reboot

\$ resize2fs /dev/mmcblk0p2

\$ df -h

done

~~2001:4860:4860::8888~~

~~echo -e "# Generated by NetworkManager\nnameserver 8.8.8.8\nnameserver 8.8.4.4\nnameserver 2804:14d:1:0:181:213:132:4\n# NOTE: the libe resolver may not support more than 3 nameservers.\n# The nameservers listed below may not be recognized.\nnameserver 2804:14d:1:0:181:213:132:5" > /etc/resolv.conf~~
~~//verificar se o avahi-daemon.service está rodando~~

Desabilitar IR

touch /etc/modprobe.d/blacklist.conf | echo "blacklist sunxi-cir" >>
/etc/modprobe.d/blacklist.conf