efaLive

Manual

Contents

1 Introduction

efaLive is a compilation of an operating system for computers, the electronic logbook software for rowing and canoeing EFA and a few tools to maintain the system. The system is prepared to start EFA full-screen in a so called KIOSK mode. Only EFA is running and it is not possible to start any other program without authentification.

There are two image types of efaLive available. One DVD image, a so called live-DVD and an image for the popular RaspberryPi.

The operating system that this compilation is based on is Debian GNU/Linux [1]. Since GNU/Linux is open source software, you do not have to pay any license fees to use it. Without this, it would not be possible to provide this live-DVD. This would not be possible using Microsoft Windows for legal reasons.

The same applies to EFA [5], which is the reason for this DVD. EFA is open source software as well. The version of EFA that is used for this compilation is the same as you can doenload on the home page. So there are no modifications in the software EFA.

ATTENTION: Even though the efaLive-DVD does not touch the hard drive of your PC it can not be guaranteed that the Live-DVD anyhow influences the behavior of the PC. I have to point out that you use the DVD on your own risk. I am not responsible for any damage on your hard- or software.

2 efaLive-DVD

A live-DVD is a bootable DVD for your computer. The whole system runs from the DVD and does not touch the hard disc. Thus, such a DVD is a good tool for demos of software, installations or to repair the software on a PC.

Another characteristic of a live-DVD is, that all changes that were done at runtime get lost when the PC is stopped. This is, because the hard drive does not get modified and the DVD is not writable. One solution for this disadvantage is to use an USB stick. We will come back on this later.

2.1 Hardware requirements

Here you can see the hardware requirements for the live-DVD. The values are minimal requirements.

- Intel Pentium III Processor at 600MHz

- 256 MB memory

- DVD-ROM drive or USB connector

- Monitor with a resolution of 1024x768 pixels

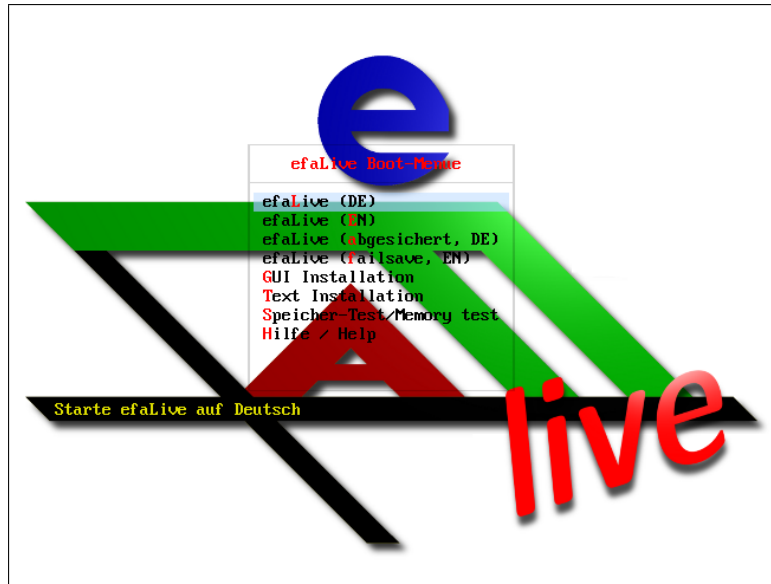- optional an USB connector for backups

Fig. 1: Selection screen boot loader (Syslinux)

2.2 How to create the efaLive-DVD

You can download an efaLive ISO image from the Internet [8]. Almost all DVD recording software provides a functionality to burn such ISO DVD images on a DVD. Check the documentation of the software for more information.

As an alternative you can copy the image to an USB stick.

2.3 Or use an USB stick

You can also copy the image to an USB stick. The PC has to be able to boot from USB devices to use this method. Especially older PCs often do not provide this functionality.

On Linux you can copy the ISO image using the command `dd if=<EFA LIVE ISO> of=/dev/sdb` (provided /dev/sdb is the USB stick). Attention: it is possible to delete important data if you do not choose the correct device for the `of=` parameter!

On Windows you can use the Win32 Disk Imager [14]. This program by default works for `.img` files only. So you have to rename the file or change the field „file name" to `*.iso`.

Besides that there is no difference compared to a DVD.

2.4 How to run the efaLive-DVD

Starting the live-DVD is quite easy:

1. Put the DVD into the DVD-ROM drive or plug in the USB stick

2. (Re-) start the computer

3. Select efaLive (English) on the selection screen (Fig. 1) and press `<Enter>`

efa will be started automatically with its boat house view when you run the live-DVD. You can find more information about the usage of efa in its documentation [6].
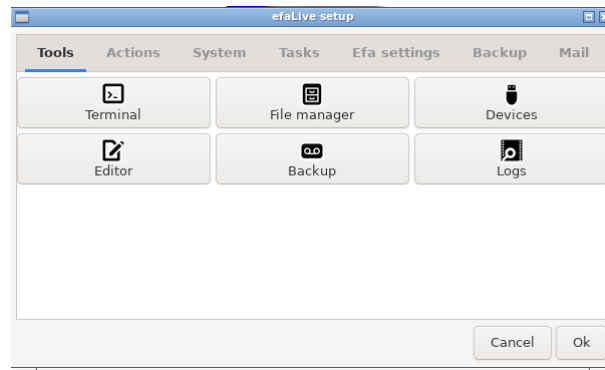
Fig. 2: efaLive Setup

You should see a screen like in Fig. 2 after a while. Here you can change some settings. In most cases you can leave them as is for now. Click on „Ok" after you have finished the configuration.

The efaLive Setup window can always be opened by pressing `<Strg>+<F12>`. So you can change these settings at any time. For some settings it is necessary to restart the PC to take effect. You have to pass the password of the efa user before the window is opened.

The default password for the root user is „livecd", the one for the efa user is „efalive".

An English keyboard layout is used, if you have started the live-DVD in the English mode.

2.5   Persist data in live mode

To persist the changes during a live session you can use an USB stick. You have to uncompress the file `persistence.zip` from the `snapshot` directory of the DVD to the root folder of any USB stick so that there is a "`persistence`" file. Plug in this stick into the PC before you start it from the live-DVD. The stick should be recognized by the PC during the boot phase. It will be used for snapshots of the home directory of the efa user. This means that the content from the `persistence` file is copied to the home directory at startup and vice versa at shutdown. The home directory contains configuration data and user data of efa.

Since the copy process runs at boot and shutdown only, you should not remove the USB stick before the PC was shut down.

3   Installation on a PC

3.1   Hardware requirements

These are minimum requirements.

- Intel Pentium III processor with 600MHz

- 256 MB memory

- 2 GB hard disc

- DVD-ROM drive or USB connector (for installation)

- Monitor with a resolution of 1024x768 pixel

- optional an USB slot for backups

The memory might be even less than stated above, but you can not run the graphical installer in that case. The installation in text mode is no rocket science, but it is not described in this document.

You should think about hardware components that are really required for the usage in the boat house, before you start the installation. Read more about this in chapter 9.1.

3.2   Installation steps

Fig. 3: Choose the language

In this document I only can cover very common aspects of the installation. Thus I assume that you use a standard desktop PC with a hard drive, a DVD-ROM drive and optional one wired network card. Further on I assume that the whole hard drive gets used for the installation so that all data get deleted. For more information regarding the installation of the Debian GNU/Linux system check [2].

All screenshots in this section come from an older version of Debian. But the contents are the same.

ATTENTION: Strictly following this installation instructions, the whole hard drive of the PC will be erased! All data on the hard drive will be lost! It is possible to influence this behavior, but this is not part of this document.

In the first step you have to choose the language you want to use for the installation and the system. After a click on "Continue" you have to choose the country and the keyboard layout.

3.2.1 Computer without network card
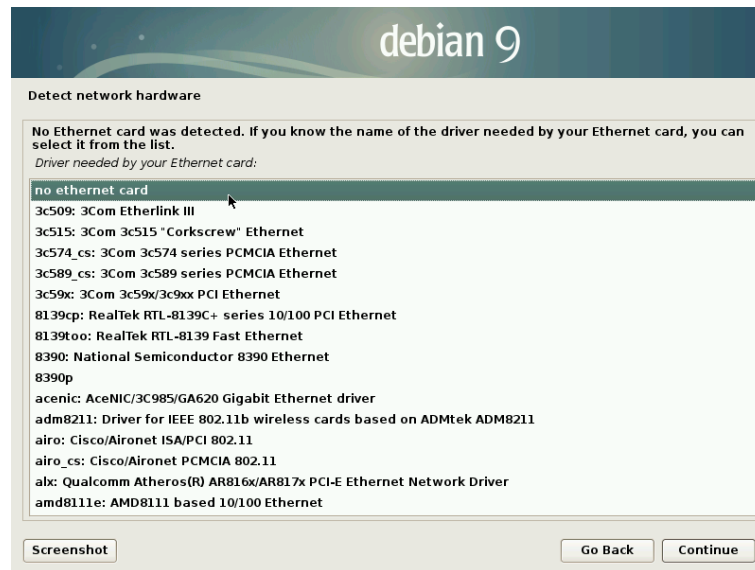
Fig. 4: Selection of network adapter

Most modern computers have a network card. Thus the installation program is very eager to find such a card. Choose "no Ethernet card" here.

The next screen contains a warning that no network card was found. You can just confirm it. The next section can be skipped.
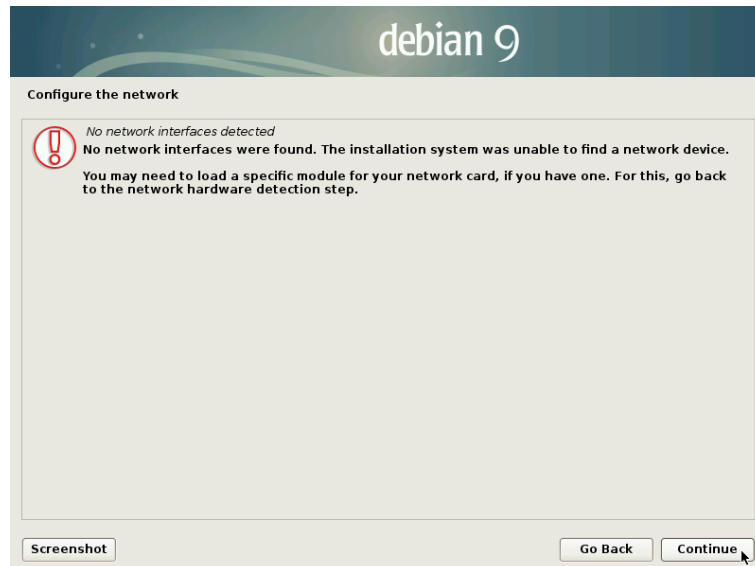
Fig. 5: Confirmation of network adapter

3.2.2 Computer with network card

Usually there is a DHCP server in a network with DSL or any similar Internet connection. It automatically configures the network card with the correct settings for the network. Normally a DHCP server runs on the Router. In case that the automatic configuration via DHCP does not work, you will see a note like in 6. Otherwise, the network will be configured automatically and you can continue with the hard drive setup.

Fig. 6: DHCP configuration failed

You can confirm this screen. In the next step you have to choose, how to configure the network. Did the DHCP configuration fail, even there is a DHCP server in your network, you have to check what's wrong and choose "retry network autoconfiguration".

Another choice is to not configure the network. I think, this is not very useful, because in this case you should better disable or remove the network card (see chapter 9.1).
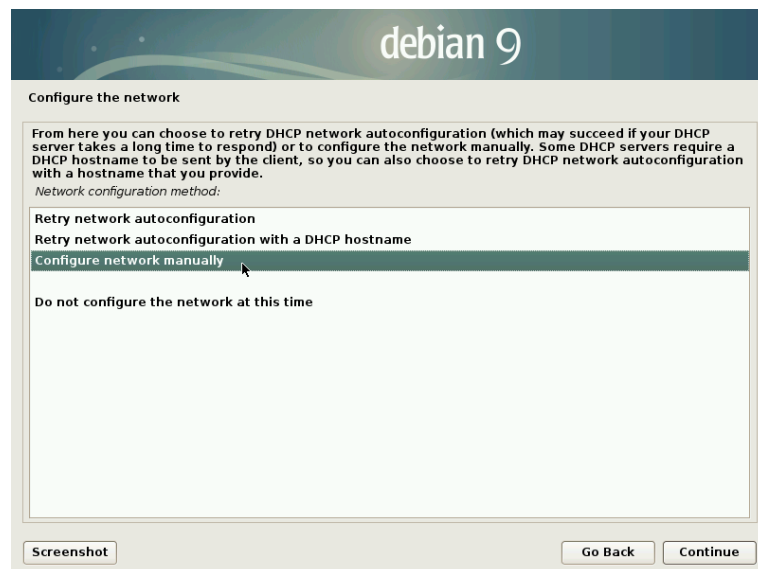
Fig. 7: Manual configuration of the network

Most probably you want to configure the network manually now. So choose the corresponding entry in the list. In the following steps you get asked for the IP address for the PC, the network mask, the gateway and the name server (DNS). Please take care here. If you choose wrong settings, you can disturb the whole network!

3.2.3 Configure time zone

Depending on the country you have selected before, a dialog to choose your time zone may be shown.

3.2.4 Hard drive setup
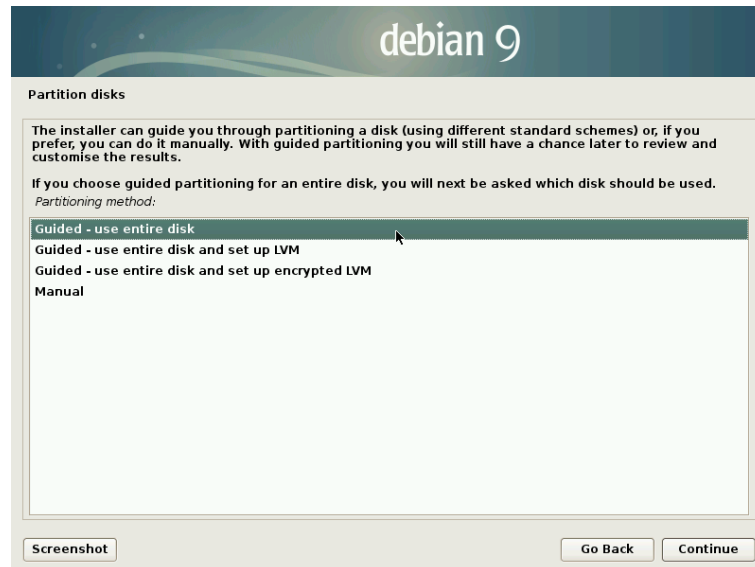
Fig. 8: Partitioning

Now you have to partition the hard drive. This means that the hard drive is divided into proper sections for the usage with efaLive. I assume that the whole hard drive shall be used here. This means that all data on the hard drive will be deleted!

You can influence this behavior by choosing "Manual", but you should know what you are doing in this case.

Fig. 9: Selection of hard disk

Here you have to choose the hard drive for the installation. In this example there is only one.
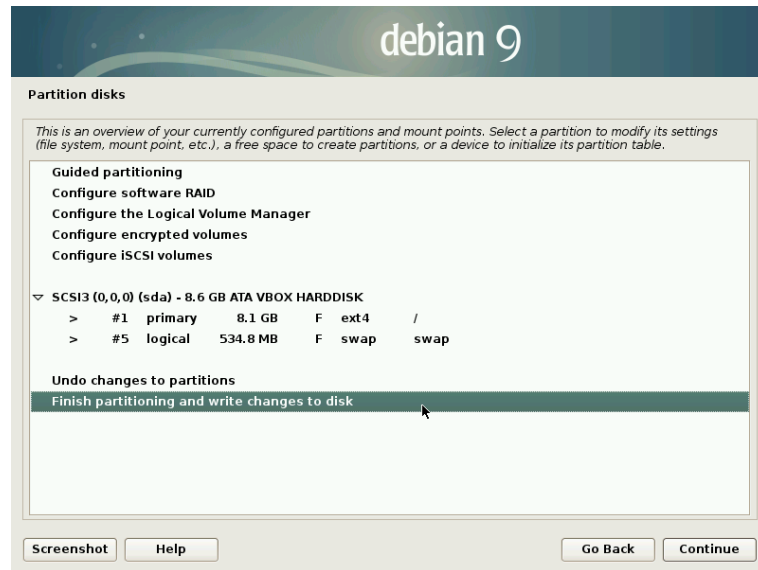
Fig. 10: Confirm partitioning

On the next screen you can see, how the hard drive will be partitioned. Choose "Finish partitioning and write changes to disk" to continue.
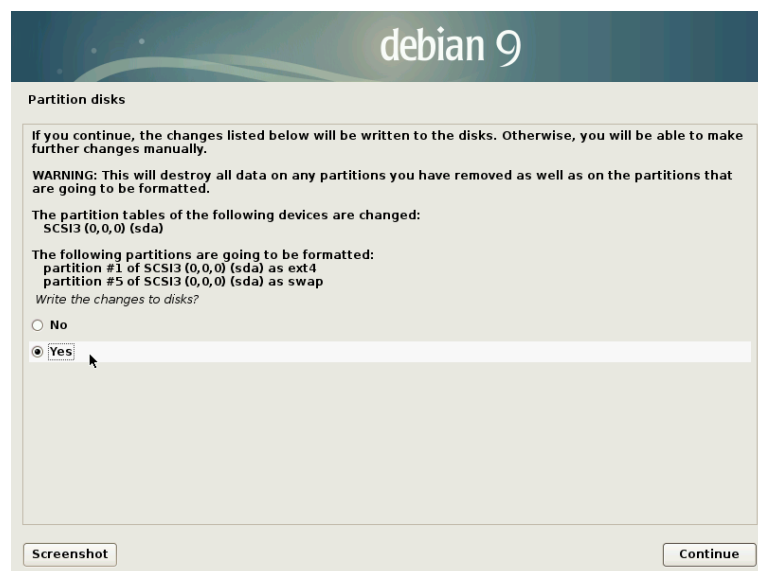
Fig. 11: Security question before writing to hdd

You see another warning now. All data on the hard drive will be deleted, if you choose "Yes" here.

3.2.5   Package management
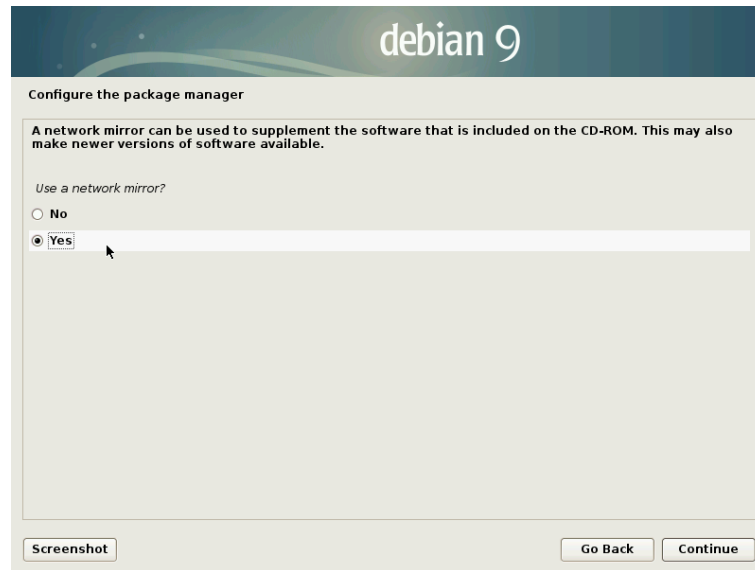
Fig. 12: Use a mirror server?

The Linux system which efaLive is based on can be updated over the Internet. To get the best download performance and to disburden the main software package servers, you should choose a proper mirror server. It should be close to your location to get the best results.

Choose "No" here, in case your computer has no Internet connection.

Fig. 13: Region for mirror server

If you decided to use a mirror server, you first have to select the region where you are located. Then you get a list of mirror servers that are based in that region. Choose one of them that is close to you.

Fig. 14: Choose a mirror server

Fig. 15: Use proxy server

Now you can configure a Proxy server. In most cases you can leave this field blank and continue.

3.2.6   Boot loader
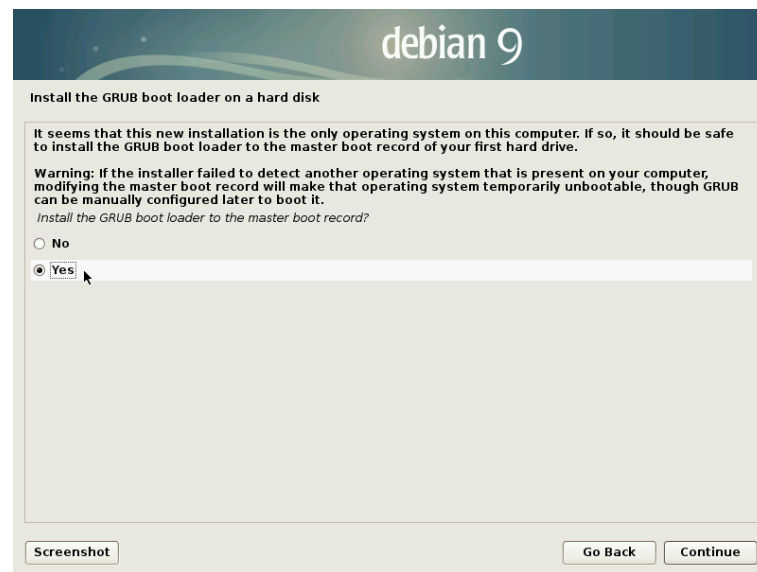
Fig. 16: Install boot loader Grub

Now you're almost done. The last question asks you, where to install the boot loader. It is not important what a boot loader is, at the moment. Normally you should choose "Yes" here to install it into the master boot record.
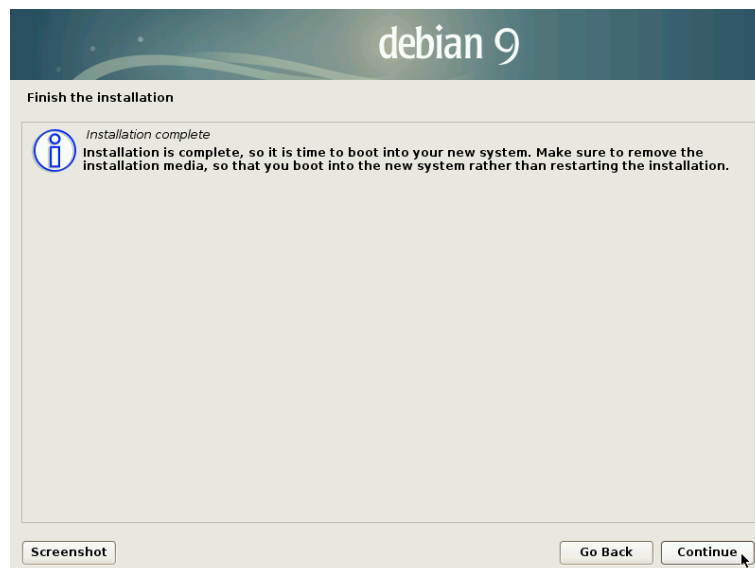
Fig. 17: Finish

That's it! The installation is finished. After clicking on "Continue", the computer will be restarted. Remove the DVD-ROM or the USB Stick now, so that the PC does not boot from it again.

When you start the computer from hard disc now, you will not see the boot loader like in 1. The boot loader that was just installed prints a short text only. You can press `<ESC>` here if you want to enter the menu of the boot loader. To edit one of the menu entries, you have to authenticate. The default user is "root" and the password "livecd".

Without pressing a key, the system boots efaLive. You can hide the image that is shown during startup to watch the boot messages by pressing `<ESC>`.

Now I suggest you to read chapter 9 to secure your fresh efaLive installation.

Information for the usage of efa can be found on [6].

Have fun with efaLive!

4   Installation on the RaspberryPi

The efaLive image for the RaspberryPi does support the models 1 to 4.

On Linux you can copy the image using the command `dd if=<EFA LIVE IMAGE>` `of=/dev/sdb` (provided /dev/sdb is the SD card). Attention: it is possible to delete important data if you do not choose the correct device for the `of=` parameter!

On Windows you can use the Win32 Disk Imager [14].

Once all data have been written to the SD card, you can put it into the corresponding slot of the RaspberryPi. After the start-up, it will automatically re-start. The RaspberryPi 4 sometimed requires a manual re-start. After the re-start efaLive-setup should be displayed. I recommend to first run raspi-config from efaLive-Setup to configure your language, timezone, keyboard layout and Wifi zone. In case you changed something here, you should re-start the Pi again via the "Actions" tab.

Now you can configure the system as usual.

4.1   Hardware clock

The RaspbberyPi can be combined with a hardware clock. Doing so will set the system time to a proper value after restart in case there is no Internet connection. To activate the clock, you have to enable (remove #) one of the following lines in `/boot/config.txt` as user "root", depending on the model of the clock:

```
#dtoverlay=i2c-rtc,ds1307
#dtoverlay=i2c-rtc,ds3231
```

Then you have to enable the synchonization between the sytem and the hardware clock:

```
systemctl enable hwclock.service
```

Restart the system to activate the clock.

4.2   Power button

You can power on the RaspberryPi using a button. To power off, you just have to close efa. To power on, a button has to be used. It should be a push button that is shorting pin 5 (GPIO3) and pin 6 (GND).

5   Administration of the system

5.1   Local access

You can use efaLive-Setup or a console for administrative tasks. Some of these tasks can be performed as user "efa". For other tasks you need the privileges of the "root"

user, who is the administrator of a Linux system. With these privileges you can do everything with the system, even erase the whole hard disk. So please be careful when you work as user "root".

In the following sections you can read here and there that you should log in as user "efa" or "root". This means that you should change to a text console (chapter 5.1.2) or use the console of efaLive-Setup (chapter 5.1.1) using the "Terminal" button of the tool box.

After finishing your administrative tasks, you should leave the console by using the "exit" command. The console from the efaLive-Setup can also be closed by clicking in the X of the console window. Please don't forget this step, otherwise any user can run commands in that console. To be sure, you can use `<Alt>+<Tab>` to check if there are any other windows than efa open.

5.1.1 Tool box

The "tool box" from efaLive-Setup is the preferred way to start a console. After starting it, you are logged in as user "efa". You have to provide the corresponding password when you start efaLive-Setup. To get "root" privileges you have to type `su -`, followed by the "root" password.

Use `<Strg>+<F12>` to start efaLive-Setup from within efa. For more information on efaLive-Setup see chapter 6.

5.1.2 Text console

On Linux systems you can switch between the graphical user interface and text consoles. This is done by key combinations from `<Ctrl>+<Alt>+<F1>` to `<Ctrl>+<Alt>+<F7>`. Normally you have six text consoles and one graphical interface. The graphical interface is located behind `<Ctrl>+<Alt>+<F7>`.

On a text console you just see a text prompt that asks for a user name. So to log in as user "root" you have to pass "root" as the user name at "login:", confirm with `<Enter>` and then provide the password for the "root" user. Please note that your key presses are not confirmed by any output on the screen when you type in the password.

5.2 Remote access

efaLive is equipped with a SSH server. Via SSH you can log in into a computer via network. On Linux based PCs, SSH is normally pre-installed. For Windows you can use for example Putty [16].

On Linux you can use a command like `ssh efa@efalive.efa.local` to connect to the efaLive system. You get a text console like mentioned in chapter 5.1.2. In a small network you might have to use the IP address of the efaLive system after the `@` character instead of the name.

For security reasons it is not allowed to log in as user "root" directly. To work as "root" user, you have to log in as "efa" and use the command `su -` like in chapter 5.1.1.

If you want to access the efaLive system from the Internet and the system is not directly connected to the Internet, you have to enable a port forwarding on the router. There you can use a port, like for example 1234, and forward it to the network name or IP address of the efaLive system to port 22. Do not use port 22

as the forwarded port on the router. This is the default port for SSH and there are many attack attempts from the Internet on this port.

It is very important to choose a strong password for the "efa" user if the system is accessible from the Internet! It should be long, contain capitalized and non-capitalized characters, numbers and special characters.

5.3 Data backup

5.3.1 Backup

You can configure efaLive in a way that it automatically creates a backup on a USB stick when the stick is plugged in.

On success you will probably hear three short beep tones. In case of an error, you will hear 5 long beep tones. In this case you can leave the stick in the PC and create a backup via the "Devices" dialog in the tool box. At the end a dialog will be shown where you can check the the problem in the "Details" view.

In case the backup was successful, you can unplug the USB stick. It is unmounted automatically after the backup.

For PCs that don't have a speaker or for other reasons don't play the tones, you can configure to show a dialog instead. This is done in efaLive-Setup (chapter 6).

You now should have a directory called `efaLive_backup_YYYYMMDD_HHMMSS` on your USB stick. `YYYYMMDD` stand or the actual date and `HHMMSS` stand for the actual time. In that directory you find two ZIP files, `efa_backup_YYYYMMDD_HHMMSS.zip` and `efaLive_backup_YYYYMMDD_HHMMSS.zip`. The first one contains the efa backup, the second one the configuration backup of efaLive.

The efaLive backup only contains some settings from efaLive-Setup. Other modifications of the system must be backup-ed separately. This is a compromise to store as many settings as possible, but don't let the backup grow too much.

Another way to create a backup is to use the tool box, see chapter 6.1.3. Or you can use the command line and create a manual backup by running the command `efalive-backup /media/<MOUNT POINT>` as user "efa". The place holder "<MOUNT POINT>" has to be replaced by the mount point of the USB stick.

Optionally the backup can get encrypted.

5.3.2 Restore

The most simple way to restore a backup is the devices dialog (chapter 6.1.3). Here you can restore the backup directly from an USB stick. Another solution is to use the backup dialog (chapter 6.1.5). The third way is to use the command line. Log in as user "efa" and run the command `efalive-restore <BACKUP>`. Replace `<BACKUP>` with the path of one of the ZIP files in the efaLive backup directory. Please note that both ZIP files of a complete efaLive backup have to be located in the same directory. It is also possible to restore an efa-only or efaLive-only backup. In this case a warning message is shown which says that there was not a complete efaLive backup restored.

In case you did restore an efa-only backup from a non-efaLive system, you have to create the efaLive admin user afterwards. This can be done in the admin mode of efa under "Administrators" - "Repair Admin efaLive".

You should restart the PC after you have restored a backup so that all settings take effect. You can use efaLive-Setup for restart.
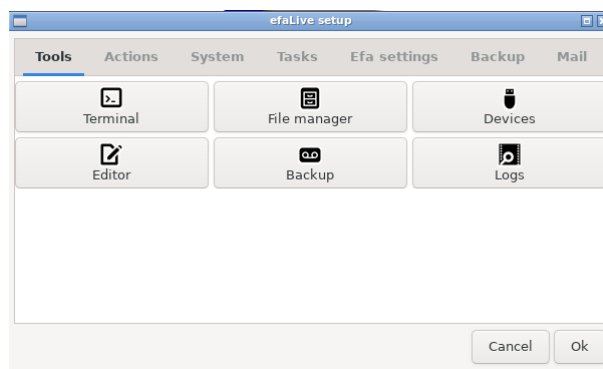
Fig. 18: efaLive Setup

In case of an encrypted backup you first have to configure the password in efaLive-Setup.

6   efaLive-Setup

efaLive-Setup is used to configure many things of the efaLive system. Besides that, it includes the "tool box". Here you can find several small tools that might be useful for administration purposes.

6.1   Tools

6.1.1   Terminal

The terminal, or text console, can be used for many purposes that are described in this document. After the start you are logged in as user "efa". To get "root" access, you can use the `su` - command.

6.1.2   File manager

With this button you can start a simple file manager. You can for example copy, move or delete files and directories, edit files and many things more.

6.1.3   Devices

To mount or unmount an USB stick or to create or restore a backup from an USB stick you can use the devices dialog.

Fig. 19: Devices tool

In the dialog you can see all USB storage devices that were found. Each device has three buttons. The first one is to mount or unmount the device. The second

one is to create a backup on this device. And the third one to restore a backup. Therefor a dialog is shown, where you can select a backup file (.zip). More under 5.3.2

When you move the mouse pointer over the name of a device and leave it there for a while, a popup is shown that holds some information for the device. Here you can find the mount point for example.

Under "Device" you can find the device file name which is used to access the device.

6.1.4   Editor

Using this button you can start a small editor called "leafpad". You can use it for example to edit configuration files like mentioned in chapter 10.1.

6.1.5   Backup

This tool is used to create or restore a backup. It works similar to the devices dialog, but you can choose the backup directory here. So after a click on "Backup" another dialog is shown where you have to select a target directory for the backup. Finally a small dialog is shown to inform you whether the action was successful.
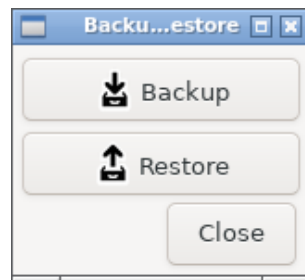
Fig. 20: Backup

After a click on "Restore", a dialog is shown, where you can select a backup file. More under 5.3.2.

6.2   Logs

This button can be used to create a ZIP file containing the most important log files of the system. The target directory for the log file package can be selected in a dialog.

6.2.1   Actions

Currently you can find two buttons here. One to shut down the PC and the other one to restart it. Both actions have to be confirmed in a small dialog so that the PC is not stopped by accident.

Fig. 21: Actions

6.3   System

Fig. 22: System

6.3.1   Screen setup

This tool helps you to configure the screens that are connected to your PC.

Fig. 23: Screen setup tool
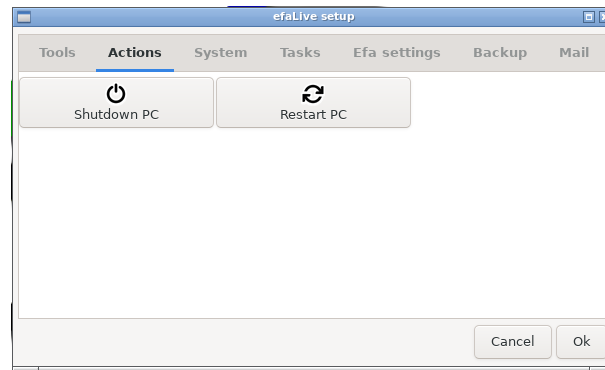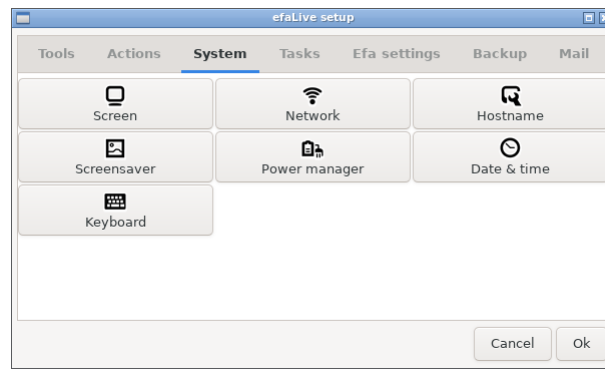
Each detected screen is shown here as a gray rectangle with a name inside. A right click on one of these rectangles opens a context menu. Here you can en- or disable a screen, set its resolution or rotate it. By pressing and holding the left mouse button on one of the rectangles you can move them. This is used to position the screens relative to each other.

A click on "Apply" activates the settings for the current view. After a click on "Ok" the settings are stored and applied on each start of efaLive.

6.3.2   Network

With this button you start a tool named "Network-Manager". You can configure almost any kind of network connection with this tool. I will explain some specialties here. For more information you can check the Network-Manager documentation on [15].
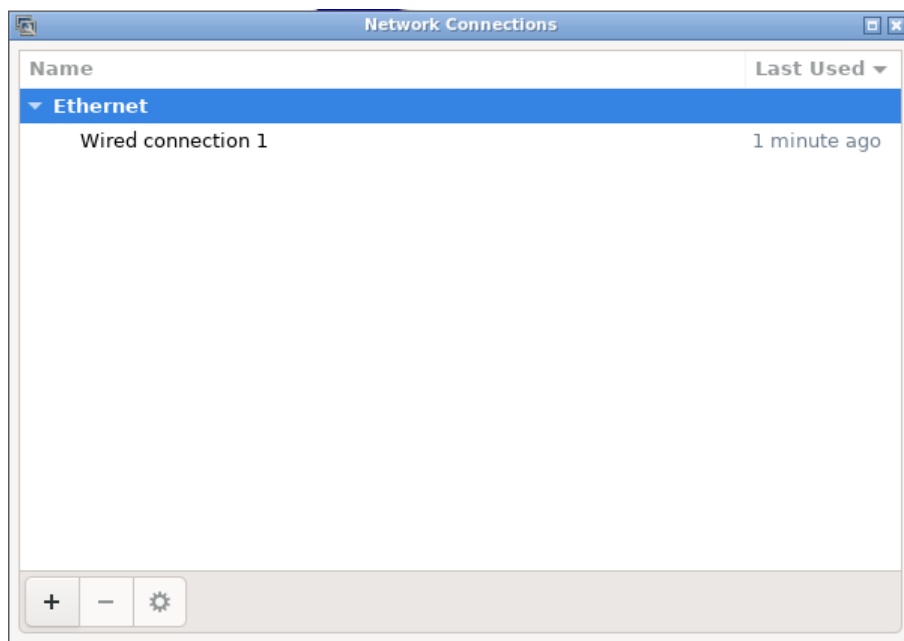
Fig. 24: Network settings

Wifi

After a click on "+" a wizard is started where you have to select "Wi-Fi". Then you should fill in the SSID, which is the name of the network, the type of security and the password. In the password field you have to select "Store the password for all users" via the icon on the right. Then select "All users may connect to this network". Probably you also want to enable the "Automatically connect to this network when it is available" option.

Broadband

It is even possible to configure broadband connections like UMTS here. You can start a wizard by clicking on "Add". The wizard asks you for the provider you use and the settings. Finally you might have to fill in the PIN for your SIM card. Just make sure that the check boxes "Automatically connect to this network when it is available" and "All users may connect to this network" are checked. By doing so, the computer will automatically start the broadband connection.
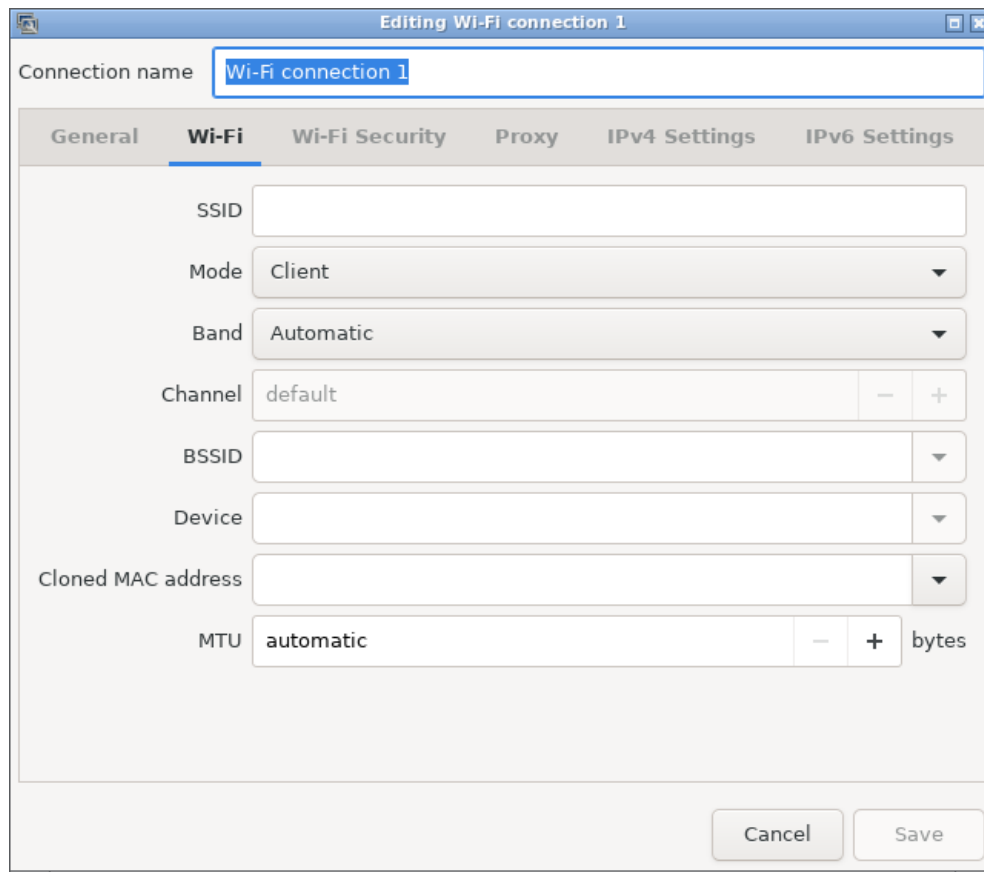
Fig. 25: Wifi settings

Attention: Using a broadband connection, depending on the type of contract, might produce high costs! So do not use this function if you don't have a proper contract.

6.3.3 Screen saver

To change the settings for the screen saver or the power saving options, you can use this tool.

6.3.4 Power manager

A click on this button starts a small power management tool. With this tool you can configure after which amount of time in idle mode the computer will go into standby. This can be configured for the computer and it's screen depending on the power supply status.

6.3.5 Date and time

With this program you can set the date and the time of the PC. Default is to use the "Network Time Protocol". So the time of the PC is synchronized via Internet. This only works, if the PC has a connection to the Internet, of course.
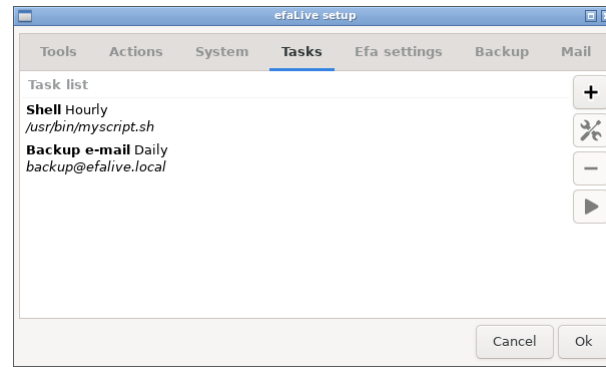
Fig. 27: Tasks
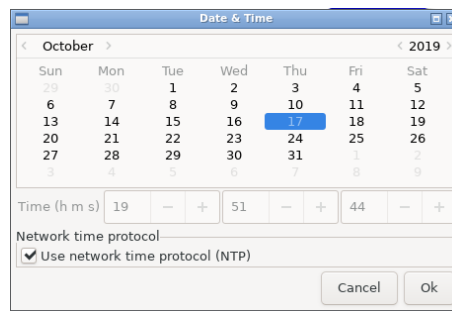
Fig. 26: Settings for date & time

6.3.6   Keyboard

Use this tool to configure your keyboard. You can change settings for the device as well as the layout.

6.3.7   Raspi-config

This button will start the raspi-config tool.

Please note that this function is available on RaspberryPi only.

6.4   Tasks

The efaLive daemon (7) automatically can process different tasks in the background with a given interval (hourly, daily, weekly, monthly). by a click on the "+" button, a task can be added. The "-" button removes the selected task and the tools button opens the settings for the selected task. You can use the "Play" button to run the selected task for test. Any output is printed to the log file.

There are two types of tasks currently: backup and shell.

Backup

A backup task requires the e-mail settings (6.7) to be complete. Besides that, the recipient address needs to be filled.
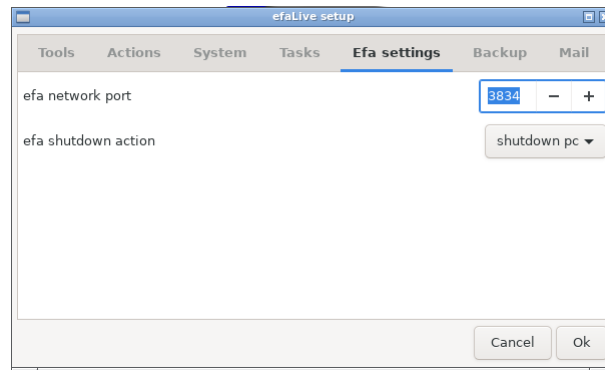
Fig. 28: Efa settings

Shell

A task can call a command. This needs to be specified with it's complete path in the corresponding field. Please note that the specified command is not run in a Shell. So you can't use output redirections like », for example. But you can call shell scripts, which have full shell support, of course.

6.5   Efa settings

You only have to change the network port if you have configured another port in the efa settings.

With "efa shutdown action" you can configure the action that is performed when the efa program is closed. Default is to shutdown the PC. If this is not what you want, you can set here to restart the PC, to restart efa or to stop efa and get a graphic login screen.

6.6   Backup

Fig. 29: Backup

All backups performed by efaLive can get encrypted. Enable the encryption here and provide a password. To decrypt such a backup on Linux, you can use: `gpg -d -o some-backup.zip some-backup.zip.gpg`. On Windows you can use Gpg4Win, for example.

Per default the automatic backup on USB sticks is disabled. You can enable it here. In case you have enabled it, you can also set whether a dialog should be shown

Fig. 30: E-Mail

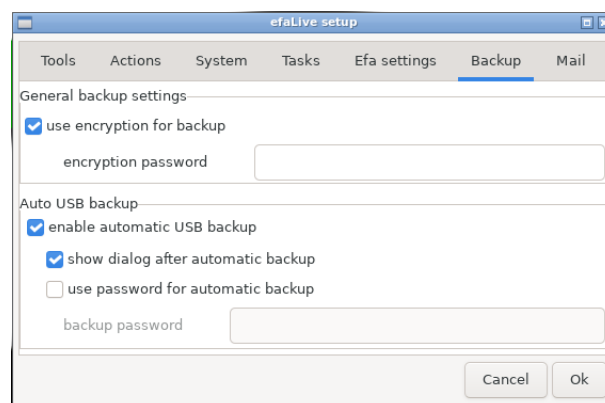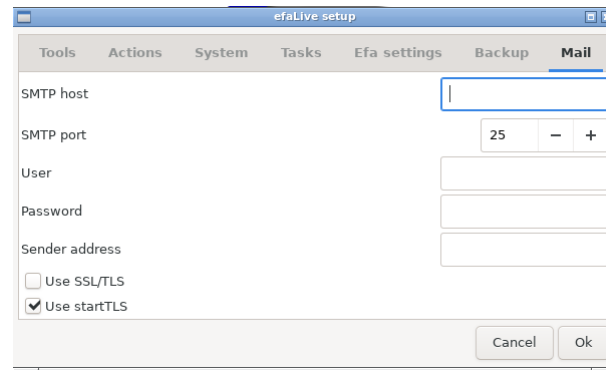after the backup. This is useful if you don't have a PC speaker. Besides that you can set a password which is checked after a USB stick is plugged in and before a backup is created.

Please note that anybody who has access to an USB port of the PC can create a backup when automatic backup is enabled. The backup might contain sensible configuration data like passwords.

6.7   E-Mail

Here you can configure an e-mail account that will be used for all mails sent by efaLive. Most of the fields should be clear. The field "Sender address" needs to be filled with the e-mail address that should be used as sender for the e-mails.

7   efaLive-Daemon

efaLive provides a small service which performes some tasks in the background without user interaction.

7.1   Watchdog

The watchdog performes a check every few seconds whether the system is in a healthy state. The concrete check is watching for the "'OpenBox"' window manager process. If it is not found, the computer gets restarted after a short deplay. Please be aware that a login screen will be displayed in between. No action is required here, the computer will restart anyway. This is useful in case e.g. the X-Server, the graphical system of Linux, crashes.

7.2   USB Monitor

This service monitors the USB ports of the computer. In case a USB memory stick is plugged in and the automatic USB backup is enabled in efaLive-Setup (chapter 6), a backup to this USB stick is triggered.

8 Software management

8.1 Update efa

In case you want to use a more recent version of efa, it is not required to reinstall the whole system. You can use the built in update function of efa. An update is also possible via the package management system of Linux (see next section).

Another way is to download the latest version from the Internet [5] and copy it to an USB stick. Plug this stick into the PC and mount it by using the tool box. Then log in as "efa" and use the following commands:

```
cd /usr/lib/efa2
unzip -o /media/<MOUNT POINT>/<NAME OF EFA FILE>
```

`<MOUNT POINT>` is the name of the USB stick in the `/media/` directory. `<NAME OF EFA FILE>` is the name of the file that you have downloaded, for example `efa2.zip`.

After a restart of the PC the new version should be started automatically.

8.2 Linux software management

To install additional software or to update already installed software, you have basically three choices on a PC.

First, you can download and install software packages manually. Second, you can install software from a CD. And third, you can configure efaLive to download and install software by command. This requires an Internet connection.

On the RaspberryPi you can use the Internet way only. The manual installation of packages is possible, but it is not so easy to download them.

8.2.1 Install software manually

On [3] you can download software packages for efaLive. These software packages have the file ending `.deb` and can can be installed by using `dpkg`. One problem of the manual installation is, that many software packages have dependencies on other packages. So if you want to install program X, it might require program Y to be installed. All the dependencies are mentioned on the download web page, but it is hard to know, which of the dependencies are installed already. So I can suggest this way for very small software packages only.

Here you can't use the instructions mentioned in 8.2.4. You have to use the command `dpkg -i <SOFTWARE PACKAGE 1> <SOFTWARE PACKAGE 2> ...` as user "root" to install packages.

8.2.2 Software from CDs

You can download complete CD images of the Debian distribution from [4]. In this case you have a huge amount of software packages available offline. Depending on your requirements, you don't need to download all CDs. After downloading one or more CDs, you can use the command `apt-cdrom add` as user "root" to register the CDs in the system. The program asks you to insert one CD after the other.

Use this method if your PC does not have an Internet connection.

8.2.3   Software directly from the Internet

With an Internet connection, this is the best way to install or update software. On the RaspberryPi you do not need to change anything. On a PC you probably have to add the repositories. In case you selected a mirror at installation time, you probably just need the entry for the efaLive repository. If not, you have to add this mirror server now. Use the following commands as user "root":

```
echo "deb http://deb.debian.org/debian/ bookworm main contrib \
non-free" >> /etc/apt/sources.list
echo "deb-src http://deb.debian.org/debian/ bookworm main contrib \
non-free" >> /etc/apt/sources.list
echo "deb https://efalive.hannay.de/debian/ bookworm main" \
>> /etc/apt/sources.list
```

After that you have to update the internal index by using the command `apt update`.

8.2.4   Install/delete/search/update

The `apt` command is used for maintenance of the software. With `apt search <SEARCH TERM>` you can search for software (does not always work very comfortable). To install a package you can use `apt install <PACKAGE NAME>`, to delete one `apt purge <PACKAGE NAME>`. The command might ask for permission to automatically install dependencies. To update the installed software, use `apt upgrade`.

In every case you should update the internal index by using `apt update`, before you perform one of these operations.

9   Securing the system

Since the computer will probably be located in the boat house, I suggest to secure it a bit. So here you can find a few hints, how to achieve this. Please note that even all these hints together don't bring you 100% security. An expert will probably be able to break in, anyway. However, it is a good idea to make it as difficult as possible.

9.1   Periphery

To reduce the ways to access the system, you should think about putting the computer into a box with a lock. If this is not possible, it is a good idea to remove all hardware from the computer, that is not required for its operation in the boat house. Here a list of what you probably can remove:

- Floppy drive

- Network card

- Sound card

- Cards with serial and parallel ports and other ports that don't get used

- DVD-ROM drive (not needed after installation)

9.2 BIOS

Everything that can not physically be removed and will not be used, should be disabled in the BIOS. You mostly can disable here devices like mentioned in 9.1. Booting from other devices than the hard disc should be disabled, too.

Set a password for the BIOS so that non authorized people can not change the settings you made.

Some PCs have a switch, which detects if the computer case has been opened. In such a case the BIOS will show an alarm and ask for the BIOS password at startup. You should switch it on.

9.3 Passwords of users

The default password for the "root" user is "livecd". You should change it! To do so, log in as user "root" (5.1). Change the password by using the `passwd` command. You have to provide the new password twice to avoid typos.

Please note that your key press events are not confirmed by any output on the screen for this command. This is OK.

The password of the "efa" user, default is "efalive", should be changed as well. Log in as user "efa" and change the password by using the `passwd` command as mentioned above.

Please choose a long password that contains upper and lower case characters, numbers and special characters.

9.4 Password boot loader Grub

The boot menu of the boot loader Grub [10] provides ways to influence the boot process of the PC. Thus you should change the preset password for it.

Open the file `/etc/grub.d/40_custom` as user "root" with an editor like mentioned in chapter 10.1. Exchange the password "livecd" in the line `password root livecd` by your own password.

10 Further topics

10.1 Editor

efaLive provides a few editors. The most comfortable one is the one that you can start from efaLive-Setup (chapter 6.1.4). In this case you work as user "efa". In case you want to change system files, you have to use the terminal of efaLive-Setup. Run the `su -` command to get "root" and start the editor with `leafpad`.

There are two more editors for the console. One is `vim`, which is a very powerful editor. But it is more complex as well. So it will not be described here in detail. The oher editor is `nano`. I will give you a short introduction. To edit a file, you simply type for example `nano /etc/some_config_file` or just `nano some_config_file`, in case you are in the correct directory already. Once the editor is open, you can see a list of commands at the bottom of the editor window. `^X` for example exits the editor. It means that you should use `<Ctrl>+<x>` to exit.

In case you changed a file, you can use `<Ctrl>+<o>` to save it. Or you just use `<Ctrl>+<x>`, because it will ask you whether you want to save the changes (`<y>`)

or not (`<n>`). In any case you will be asked for the name of the file that should be saved. For the examples above you can just confirm it.

10.2   Continuous backup

10.2.1   On a storage device

To continuously create backups on a storage device, you can create a "Shell" task in efaLive-Setup. in case the target file system is mounted already, the command is `efalive-backup /<PATH>` where `<PATH>` needs to be replaced by the target path for the backup.

In case the target file system is not mounted, like an USB stick for example, the command is `/usr/lib/efalive/bin/autobackup -q /dev/<DEVICE>`. `<DEVICE>` needs to be replaced by the device file name of the target device. You can find it in the "devices" tool (6.1.3) of efaLive-Setup.

Please note that this kind of backup should not be your only backup. Incidents like a lightning that destroys the PC could also destroy the USB stick. So please create a backup as described in 5.3.1 in addition.

10.2.2   Via e-mail

Just create a "Backup e-mail" task in efaLive-Setup.

11   Support

11.1   Support for efaLive and efa

The best place for support for efa and efaLive is the official forum on [7]. Besides that you can find documentation and more information on the web pages of efa and efaLive ([5][8][9]).

11.2   Support for Linux

For questions around Linux I suggest to use search engines in the Internet. With the proper question you can find help for almost any problem there. For Debian, the Linux distribution that is used for efaLive, you can check their forum [11]. In case of Raspbian, the Debian based distribution for the RaspberryPi, there is a forum under [17].

Please make sure that you have searched the forum and the Internet before you ask a question there!

Finally, Linux itself provides some help tools. You can get documentation for most of the commands from Man pages. For `apt` you can use `man apt` on the command line, for example.

You can find further information here:

- [12] - Frequently asked questions for Debian

- [13] - The official Debian documentation

Finally there are many books available. But if you just want to install and run efaLive in your boat house, you should be fine without a book.

12 Appendix

12.1 Literature index

References

[1] Debian internet page. https://www.debian.org/.

[2] Debian installation. https://www.debian.org/releases/stable/i386/.

[3] Debian packages. https://packages.debian.org/stable/.

[4] Debian CD images. https://www.debian.org/CD/http-ftp/#stable.

[5] efa homepage. http://efa.nmichael.de/index.html.en.

[6] efa documentation. http://efa.nmichael.de/help.html.en.

[7] efa forum. http://forum.nmichael.de/.

[8] efaLive web page. http://efa.nmichael.de/efalive.html.en.

[9] efaLive development page. https://www.hannay.de/en/efalive/.

[10] Grub web page. http://www.gnu.org/software/grub/.

[11] Debian forum. http://forums.debian.net/.

[12] Debian FAQ. http://www.debian.org/doc/manuals/debian-faq/.

[13] Debian manual. http://www.debian.org/doc/manuals/debian-reference/.

[14] Win32 disk imager. https://launchpad.net/win32-image-writer/.

[15] Documentation Network-Manager. http://live.gnome.org/NetworkManager.

[16] Putty web page. http://www.chiark.greenend.org.uk/~sgtatham/putty/.

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