



Just a simple cloud

Installation on the Raspberry Pi

Table of content

1.	JUST A SIMPLE CLOUD ON THE RASPBERRY PI	3
1.1.	Introduction	3
1.2.	Your own installation vs. flashing an image	3
1.3.	Precondition	3
1.4.	Wine	3
2.	PREPARE THE INSTALLATION	4
2.1.	Operating system	4
2.2.	Notation in this manual	4
2.3.	Necessary packets	4
2.4.	Display resolution	4
3.	FTP-SERVER	5
3.1.	Download	5
3.2.	Installation	5
4.	RE-COMPILE THE KERNEL	6
4.1.	Download	6
4.2.	Kernel compilation and reboot	6
5.	INSTALL WINE	7
5.1.	Download	7
5.2.	Compile and install	7
6.	INSTALL JASC-SERVER	8
6.1.	Download	8
6.2.	Run the server on boot	8
7.	CONFIGURE THE JASC-SERVER	9

1. Just a simple cloud on the Raspberry Pi

1.1. Introduction

“Just a simple cloud” (named “JASC” in this document) gives you the possibility to store your files on your own server and access them through the clients from all over the world. You have the full control about your data and do not need to share them with other providers, not knowing, who else can read them.

As not all users have the possibility to run their own Windows server, we provide you the possibility with the help of a Raspberry Pi, one of the most successful miniature computers of the world, to run a cost and energy effective server.

1.2. Your own installation vs. flashing an image

In case, you have not purchased your Raspberry Pi (named “RasPi” in this document) in our web shop, you could also use your own one.

You have two possibilities:

Download one of the ready-to-go images from our server, flash it on your SD card and follow the setup guide, which you will find on our webpage.

As an alternative, you could use a RasPi, you already have and install the JASC software manually. This document describes step-by-step how to do this. The complete process will take several hours, as you need to re-compile the kernel and additional third party software.

Sofern Sie nicht einen fertig vorkonfigurierten Raspberry Pi (kurz RasPi) über uns erworben haben, können Sie Ihren eigenen RasPi verwenden.

**This manual is intended for experienced users.
You should have detailed knowledge about the RasPi and Linux.**

1.3. Precondition

To install JASC on your own RasPi, you will need the following:

- RasPi 3 B+ (including housing)
- Micro SD card
- Power supply
- Network cable
- Operating System „Raspian (stretch)“, version 4.14 or higher

You should use as a minimum a 32 GB SD card to have enough disk space for all your data. We recommend to use a 128 GB SD card. In any case, use a SD card which is classified as “Class 10” or better. All other cards will slow down your RasPi.

1.4. Wine

We will provide a version of the JASC server, which is compiled for the ARM processor of the RasPi. As the JASC project was started for usage on Windows, the RasPi JASC server will also use the Windows API. As the operating system of the RasPi is based on Linux, the JASC server would not be able to run natively. Therefore, the packet “Wine” is needed, which gives you a Windows emulation.

2. Prepare the installation

This chapter describes the needed prearrangements to let the installation run smoothly.

2.1. Operating system

Assuming, the operating system “Raspbian” is already installed and you have either a monitor, keyboard and mouse or you are using a VNC access to your RasPi (which needs to be activated in the RasPi configuration). You will find a description on how to set up VNC in the user manual.

You will need root access to your RasPi to fulfil all steps of this manual. We recommend to set up a user “**pi**” with the password “**raspberry**”. You could also use any other credentials, just exchange the commands described in this manual.

Also assuming, the network name of your JASC server is set to “JASC-RasPi”. If not, please either update the settings or exchange the following commands where applicable.

2.2. Notation in this manual

All commands, which are needed to be executed in a terminal window, are enclosed in quotation marks. Of course, you need to exclude the quotation marks.

2.3. Necessary packets

JASC will need a graphical user interface. This must be installed first, if not already done.

Additionally, the following packets are needed:

- Gcc compiler

We will install more packets during the installation. If these packets are already installed, they will be skipped automatically.

You should have installed all available updates. To do this, open a terminal window, change to user “root” and execute the following commands:

- „sudo apt-get update“
- „sudo apt-get clean“

2.4. Display resolution

The display resolution should be 1280 x 720 or higher.

3. FTP-Server

We recommend to install a FTP server on your RasPi. Even if this is not mandatory, it will make things much easier.

In case, you have already a FTP server installed, please skip this chapter.

All commands must be executed as "root" in a terminal window.

3.1. Download

- „sudo apt-get install proftpd-basic “

3.2. Installation

- Change directory "cd /etc/proftpd/"
- Edit configuration: "nano proftpd.conf"
 - IP V6 must be deactivated
 - ServerName = JASC-RasPi
- Restart FTP-Server: "service proftpd restart"
- Check status of FTP server: „service proftpd status“

4. Re-compile the kernel

To use Wine, the configuration of the kernel must be updated and the kernel is to be re-compiled.

All steps in this chapter should be executed as user "pi" (without root rights). Please open a terminal window.

4.1. Download

- Start in the home directory of user „pi“
- Install Git: "sudo apt-get install git bc"
- Download kernel sources: "git clone --depth=1 <https://github.com/raspberrypi/linux>"
- Install Bison: "sudo apt-get install bison"
- Install Flex: "sudo apt-get install flex"
- Install OpenSSL: "sudo apt-get install libssl-dev"

4.2. Kernel compilation and reboot

- Change directory "cd linux"
- "KERNEL=kernel7"
- Update kernel configuration: "make bcm2709_defconfig"
- Update configuration: "sudo nano .config"
 - CONFIG_VMSPLIT_3G=y
 - # CONFIG_VMSPLIT_3G_OPT is not set
 - # CONFIG_VMSPLIT_2G is not set
 - # CONFIG_VMSPLIT_1G is not set
- Re-compile the kernel with 3 of the 4 processors: "make -j3 zImage modules dtbs" (this step will take several hours)
- Install kernel:
 - "sudo make modules_install"
 - "sudo cp arch/arm/boot/dts/*.dtb /boot/"
 - "sudo cp arch/arm/boot/dts/overlays/*.dtb* /boot/overlays/"
 - "sudo cp arch/arm/boot/dts/overlays/README /boot/overlays/"
 - "sudo cp arch/arm/boot/zImage /boot/\$KERNEL.img"
- Reboot RasPi
- Delete folder "\$HOME/linux": "rm -r linux"
- Reboot RasPi

More information can be found here:

<https://www.raspberrypi.org/documentation/linux/kernel/building.md>

5. Install Wine

All steps in this chapter should be executed as user "pi" (without root rights). Please open a terminal window.

This manual assumes, you are using Wine V 3.19 or higher. If there is a newer version available in the meantime, you may have to adapt the commands.

5.1. Download

- Start in the home directory of user „pi“
- "git clone git://source.winehq.org/git/wine.git"
- "cd wine"
- "git checkout tags/wine-3.19"

5.2. Compile and install

- "./configure --prefix="\$HOME/.local" CFLAGS="-O2 -mcpu=cortex-a53 -mfpu=neon-fp-armv8"
- Download additional packets: "sudo apt-get build-dep wine"
(this command may fail but it is necessary)
- Edit sourcen files: "sudo nano /etc/apt/sources.list"
 - Line beginning with "deb-src": delete the "comment" characters
- Download additional packets: "sudo apt-get build-dep wine"
- "./configure --prefix="\$HOME/.local" CFLAGS="-O2 -mcpu=cortex-a53 -mfpu=neon-fp-armv8"
- Compile Wine with 3 of 4 processors: "make -j3"
(this step will take several hours)
- Install Wine: "make install"
- Update path vairables in \$HOME directory: "nano .profile"
 - Add at the end of the file: PATH="\$HOME/.local/bin:\$PATH"
- Reboot RasPi
- Test Wine: "wine --version"
 - Output is the version number of Wine: 3.19
- Install default environment: "winecfg"
- Delete folder "\$HOME/wine": "rm -r wine"
- Reboot RasPi

More information on how to compile Wine can be found here:

<https://gist.github.com/MLvanchev/14de59fa2552d315ac74c30cf1c0b01e#building-wine>

6. Install JASC-Server

All steps in this chapter should be executed as user "pi" (without root rights). Please open a terminal window.

The archive of the JASC server can be found here:

<https://www.just-a-simple-cloud.com/download/>

6.1. Download

- Download tar.gz
- Unzip the archive in the folder „\$HOME/pi“
- You should now have a folder named „\$HOME/pi/JASC“.

6.2. Run the server on boot

- "cd /\$HOME/pi/.config"
- "mkdir lxsession"
- "cd lxsession"
- "mkdir LXDE-pi"
- "cd LXDE-pi"
- Create new file "autostart": "nano autostart"
 - @lxpanel --profile LXDE-pi
 - @pcmanfm --desktop --profile LXDE-pi
 - @/home/pi/JASC/Start
 - @xscreensaver -no-splash
 - @point-rpi
- "chmod 750 autostart"
- Reboot RasPi
- Your JASC server should now start automatically

7. Configure the JASC-Server

Please read the user manual of the JASC server.