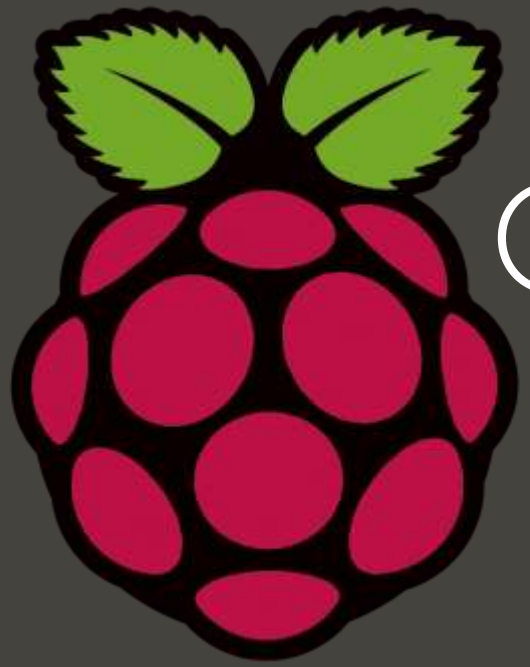
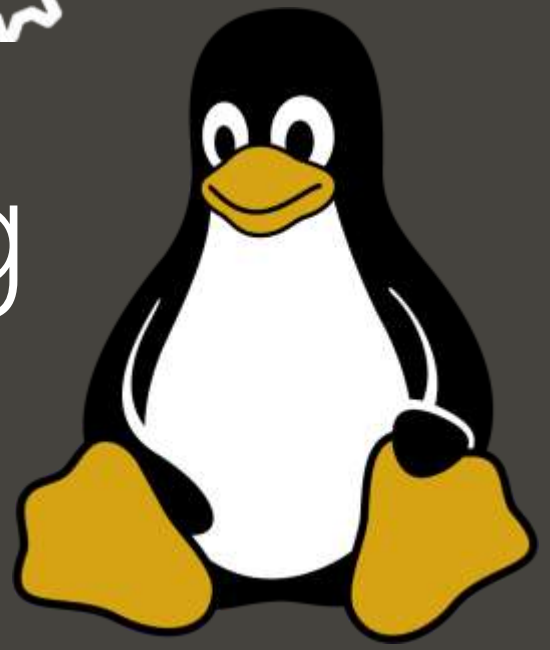
HACKERSPACE



Course: Linux og Raspberry Pi



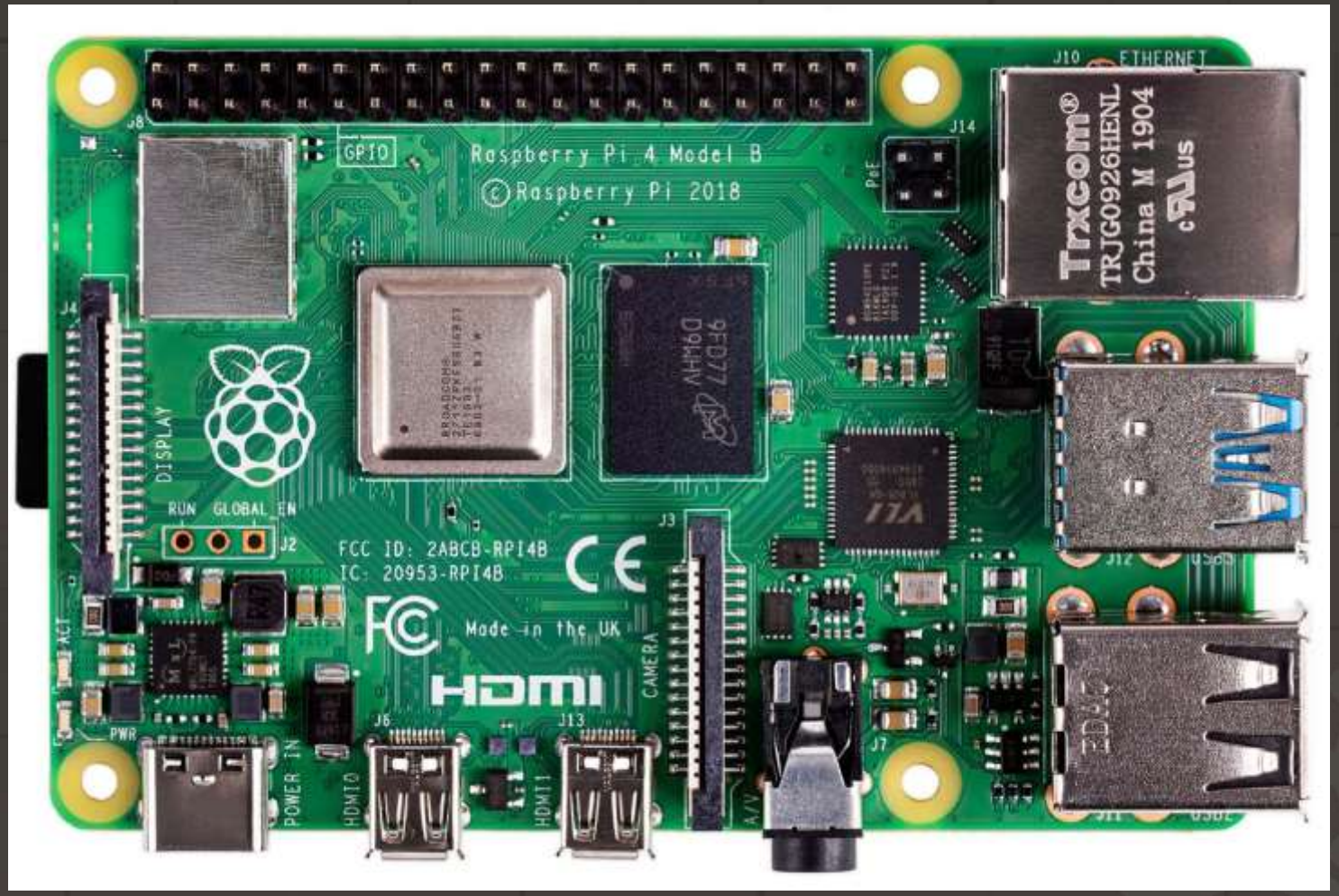
Carl Gützkow

Plan

- Backstory
- Command line
- Project

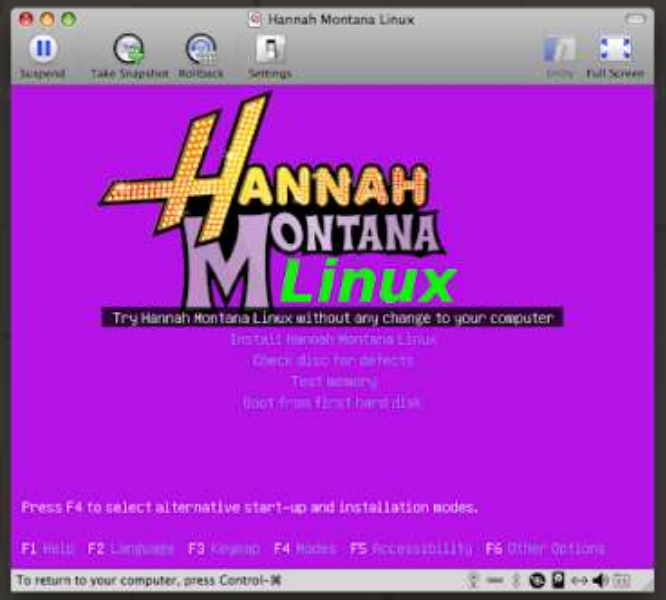
Raspberry Pi

- Cheap, but powerful
- No built in storage
- Good IO
- Loved by many



Linux

- OS-kernel
- Free software
- Distros
- Varying



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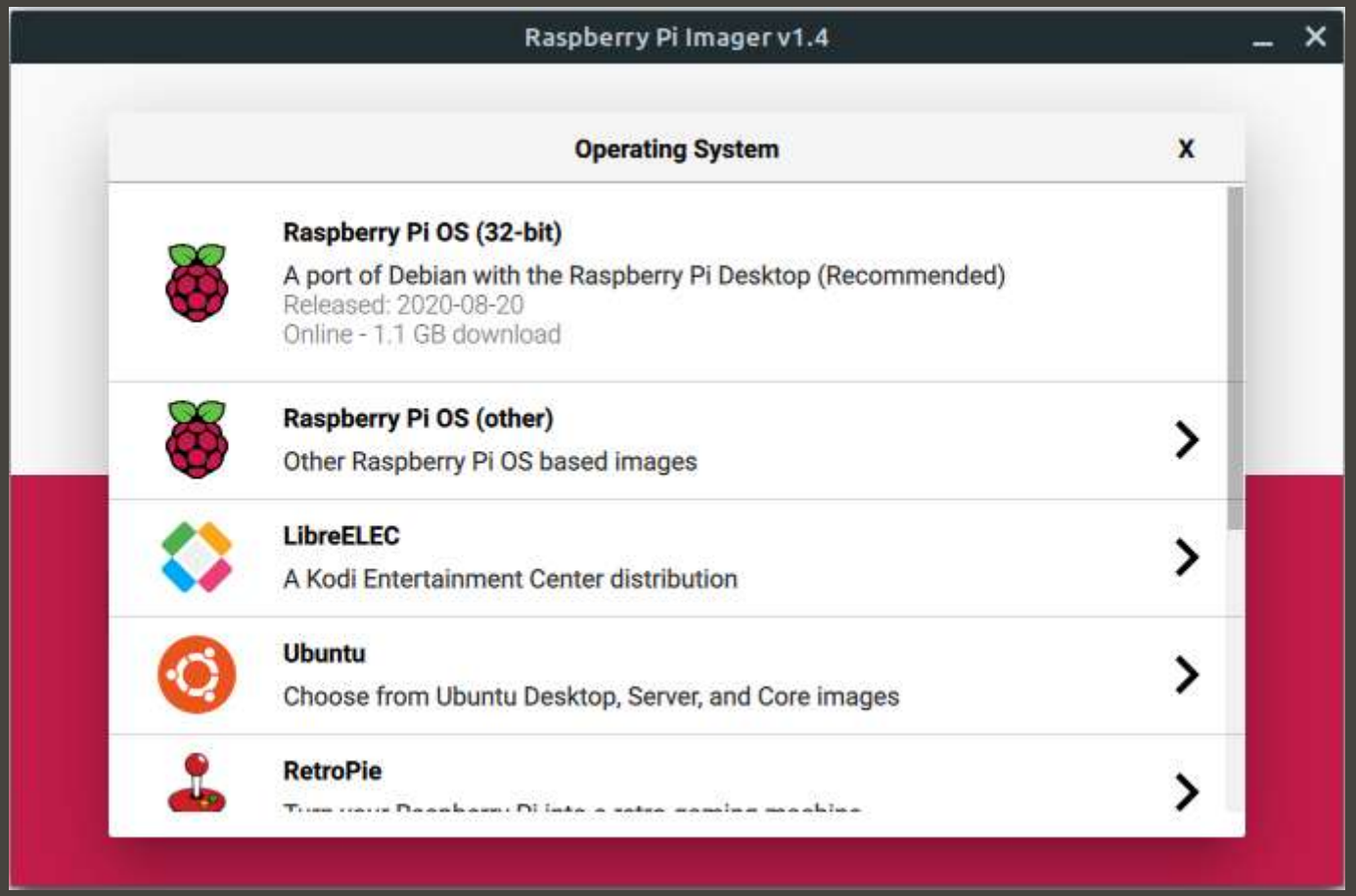
«Flashing» OS

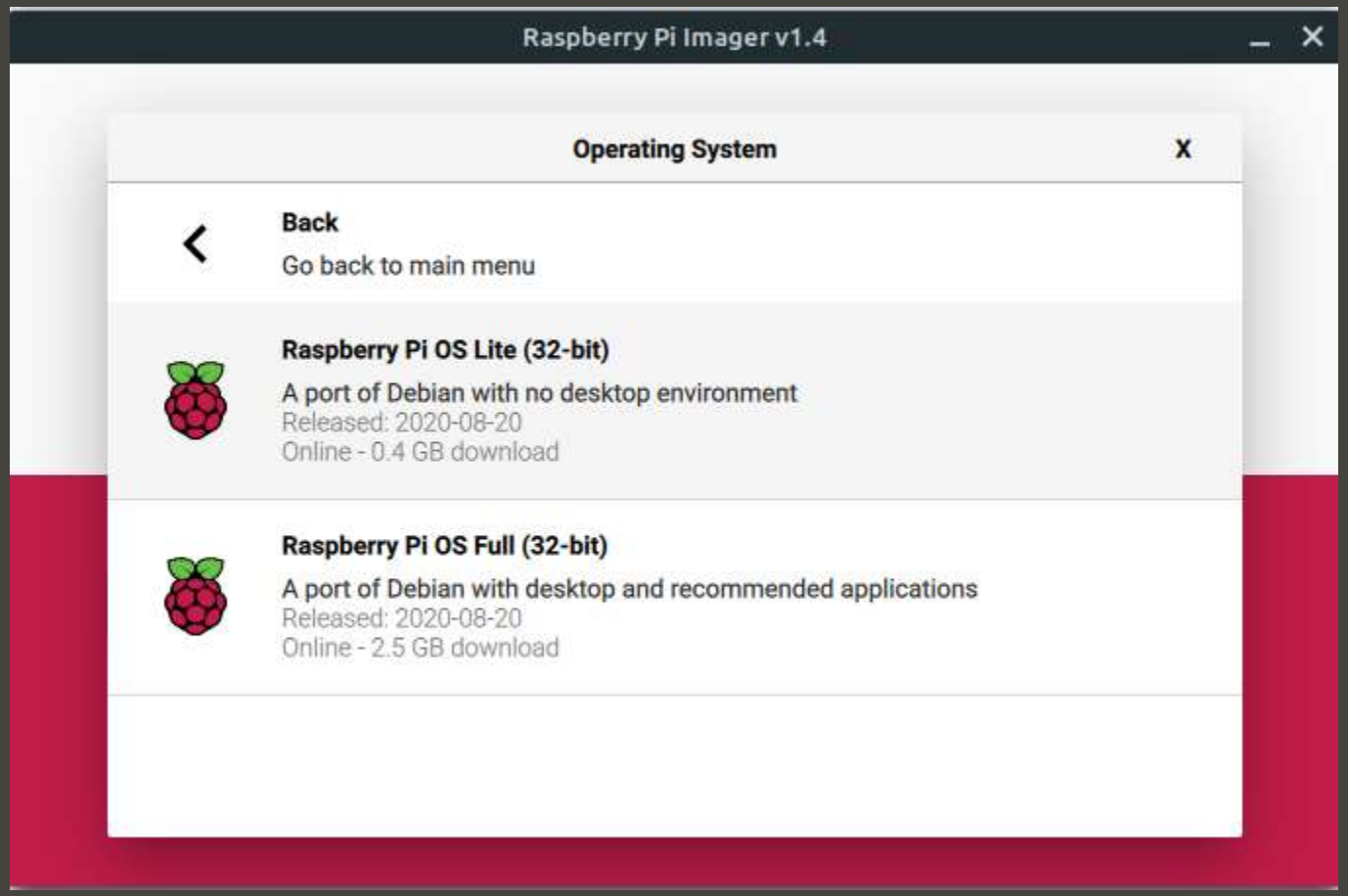
1. Downloaded rpi-imager

1. Choose OS
   - Perhaps raspberry version
2. Choose the CORRECT SD-card
3. Might edit some settings

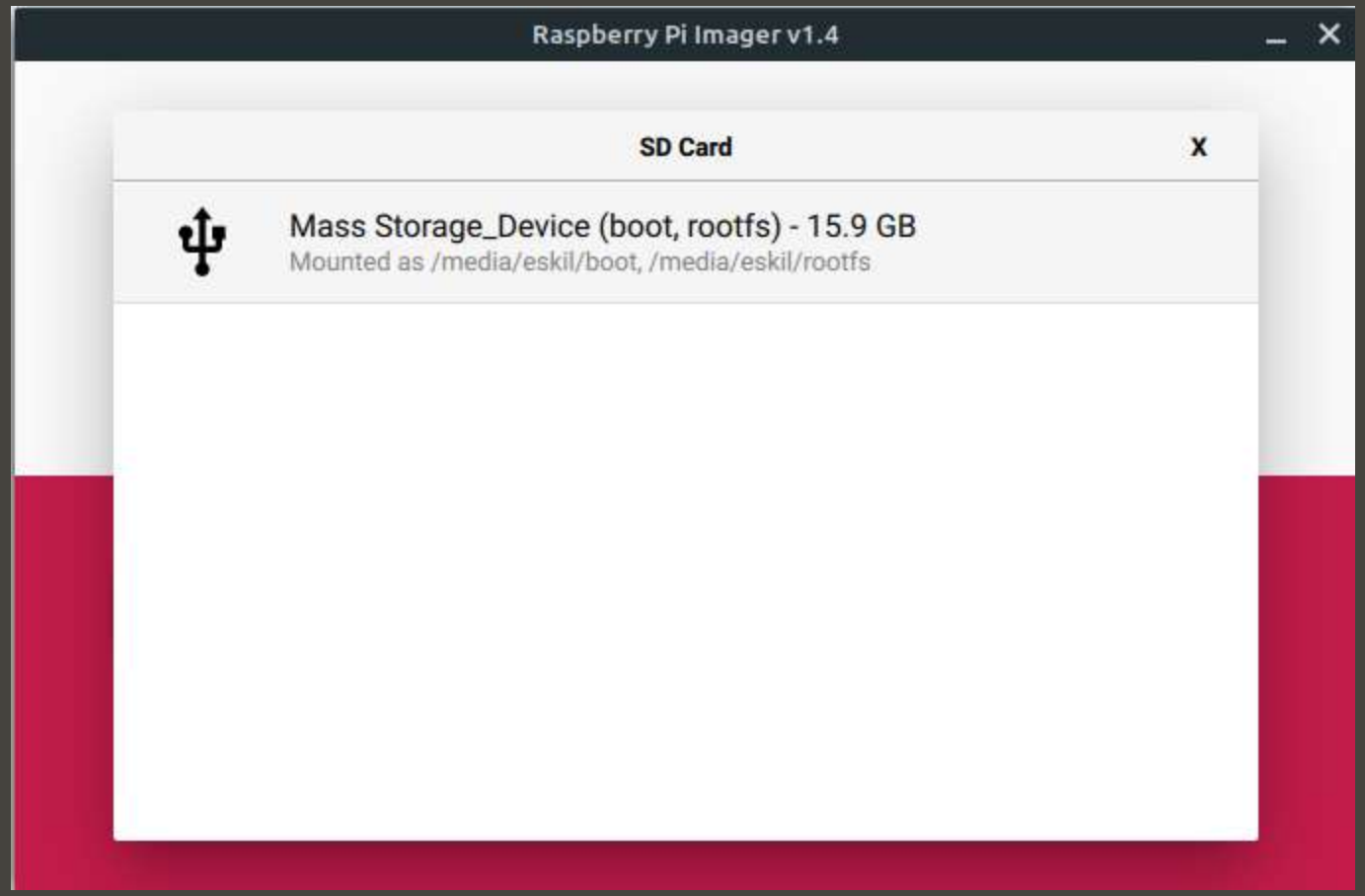
1. Write


Raspberry Pi Imager v1.4
Raspberry Pi
Operating System
CHOOSE OS
SD Card
CHOOSE SD CARD
WRITE

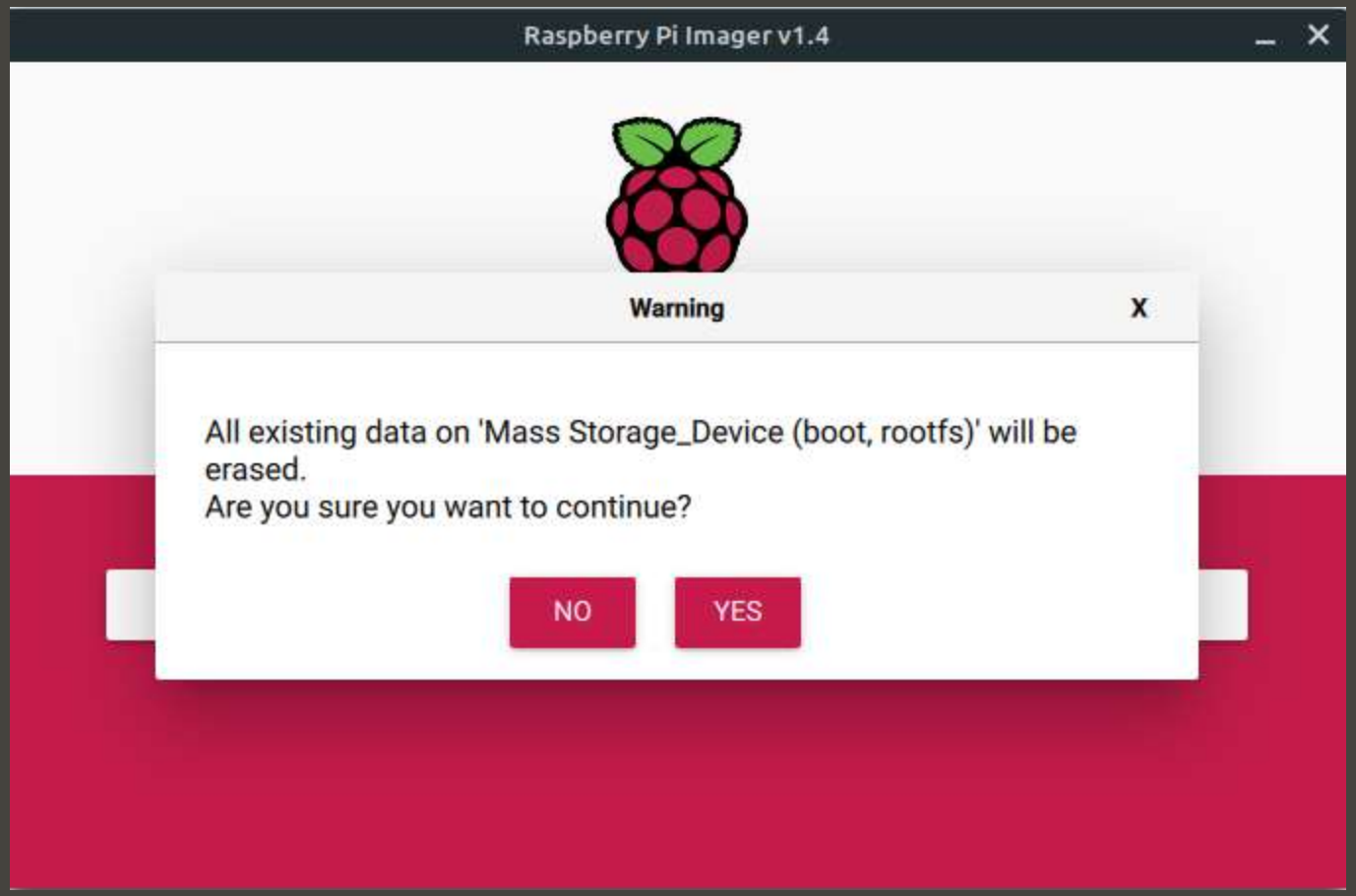

Raspberry Pi Imager v1.4
Operating System
X
Raspberry Pi OS (32-bit)
A port of Debian with the Raspberry Pi Desktop (Recommended)
Released: 2020-08-20
Online - 1.1 GB download
Raspberry Pi OS (other)
Other Raspberry Pi OS based images
LibreELEC
A Kodi Entertainment Center distribution
Ubuntu
Choose from Ubuntu Desktop, Server, and Core images
RetroPie

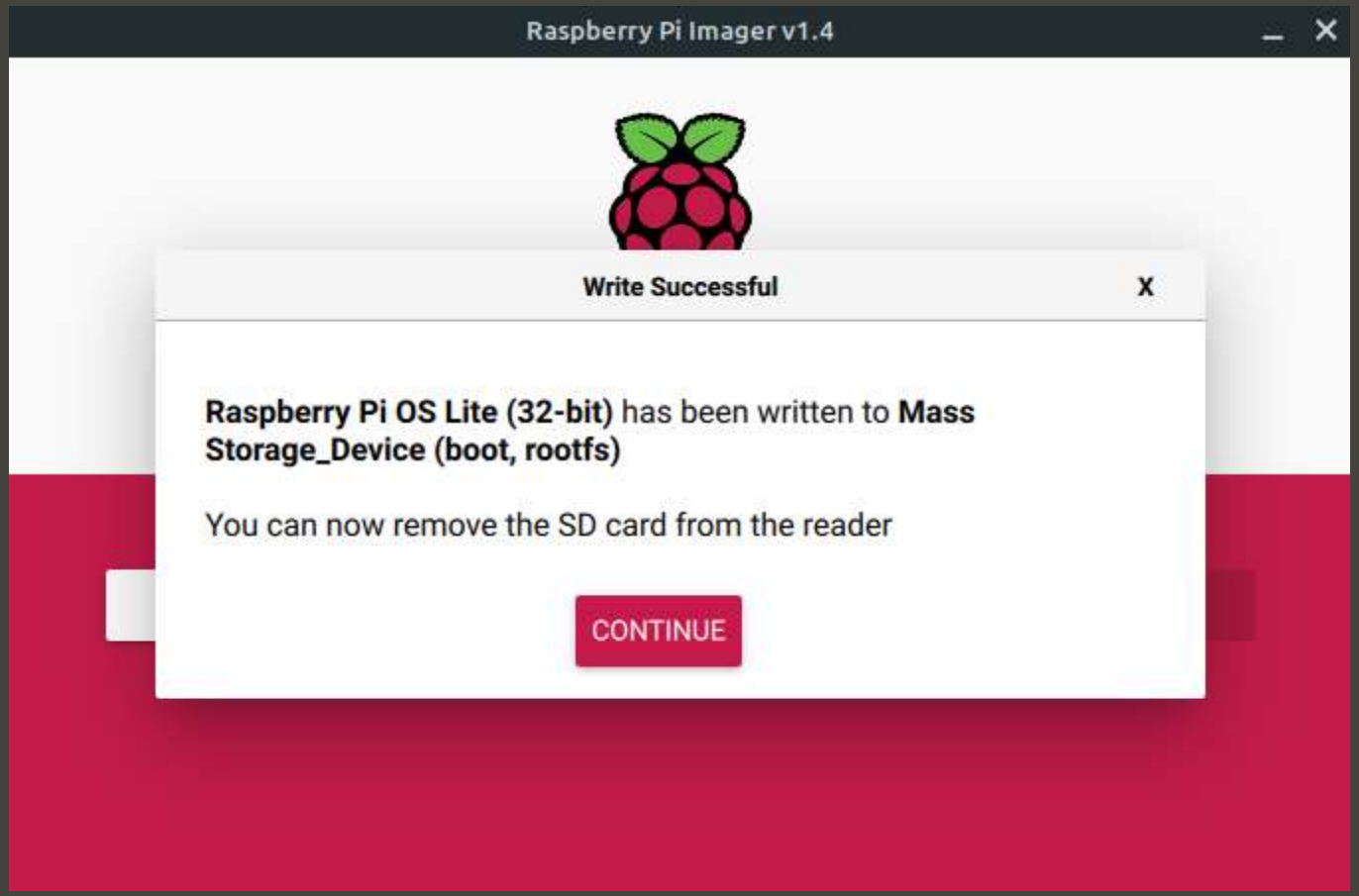

Raspberry Pi Imager v1.4
Operating System
X
Back
Go back to main menu
Raspberry Pi OS Lite (32-bit)
A port of Debian with no desktop environment
Released: 2020-08-20
Online - 0.4 GB download
Raspberry Pi OS Full (32-bit)
A port of Debian with desktop and recommended applications
Released: 2020-08-20
Online - 2.5 GB download


Raspberry Pi Imager v1.4
Raspberry Pi
Operating System
RASPBERRY PI OS LITE (32-BIT)
SD Card
CHOOSE SD CARD
WRITE


Raspberry Pi Imager v1.4
SD Card
X
Mass Storage_Device (boot, rootfs) - 15.9 GB
Mounted as /media/eskil/boot, /media/eskil/rootfs

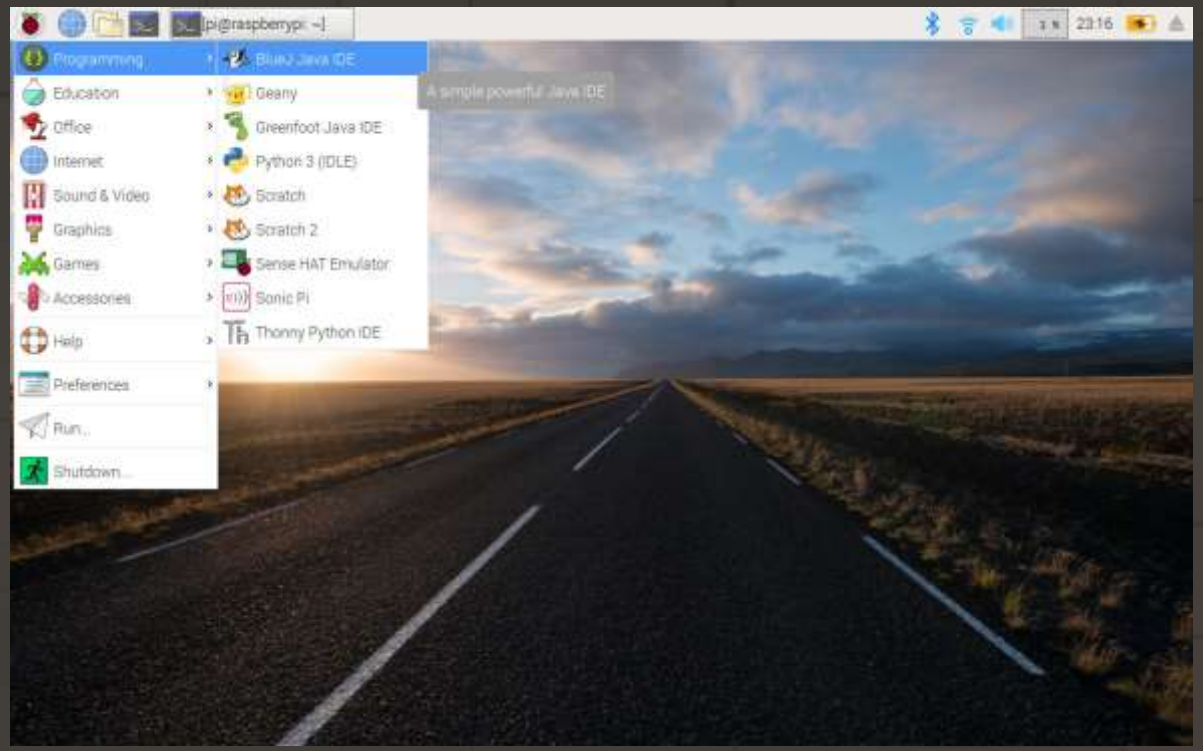

Raspberry Pi Imager v1.4
Raspberry Pi
Operating System
RASPBERRY PI OS LITE (32-BIT)
SD Card
MASS STORAGE_...
WRITE


Raspberry Pi Imager v1.4
Warning
X
All existing data on 'Mass Storage_Device (boot, rootfs)' will be erased.
Are you sure you want to continue?
NO
YES


Raspberry Pi Imager v1.4
Write Successful
X
Raspberry Pi OS Lite (32-bit) has been written to Mass Storage_Device (boot, rootfs)
You can now remove the SD card from the reader
CONTINUE

Raspberry Pi OS

- Friendly desktop
- Existing programs
- From debian
- We are using a minimal version with only terminal



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Filsystem i CLI

- `cd [folder]` to move around the file system
- `pwd` to get the current path
- `cd ..` to get to parent directory
- `ls` to list files and directories

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File management in terminal

- `cat [file]` to print out the content of a file
- `mkdir [name]` to create a directory, `touch [file name]` to create empty file
- `rm [name]` to delete a file (`rm -r [directory]` for recursive delete)
- `mv [source] [target]` to move or rename file or directory
- `nano/vim [file name]` to edit a file

Security

- `ls -la` to list more metadata about each entry
- `passwd` to change password
- `sudo [command]` to run as «super user»
- `chmod +x [file name]` to make something executable
- `chown [user] [directory]` to change owner

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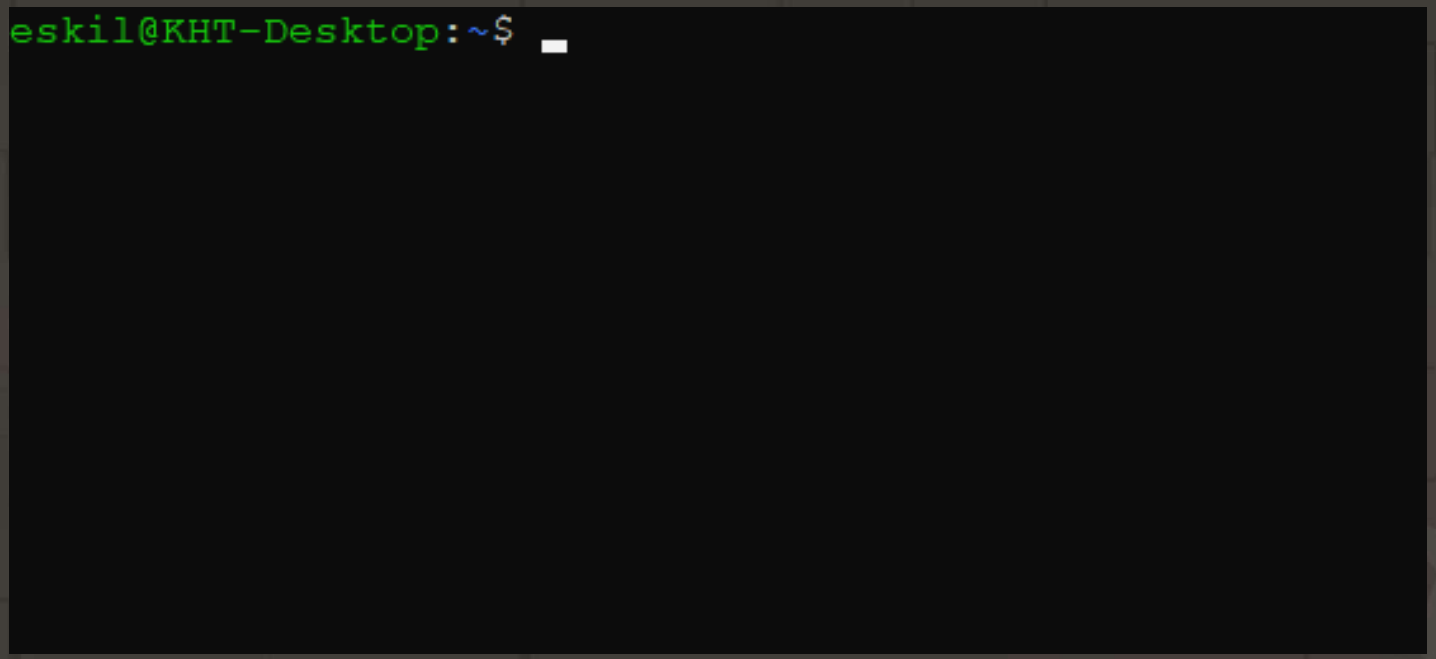
SSH

- Connect securely to other computers
- Secure
- Fast
- (Windows: https://www.putty.org/)



Package manager

- `apt update` to update from repositories
- `apt upgrade` to install updates
- `apt install [pakkenavn]` to install package
- `apt search [søk]` to search for package

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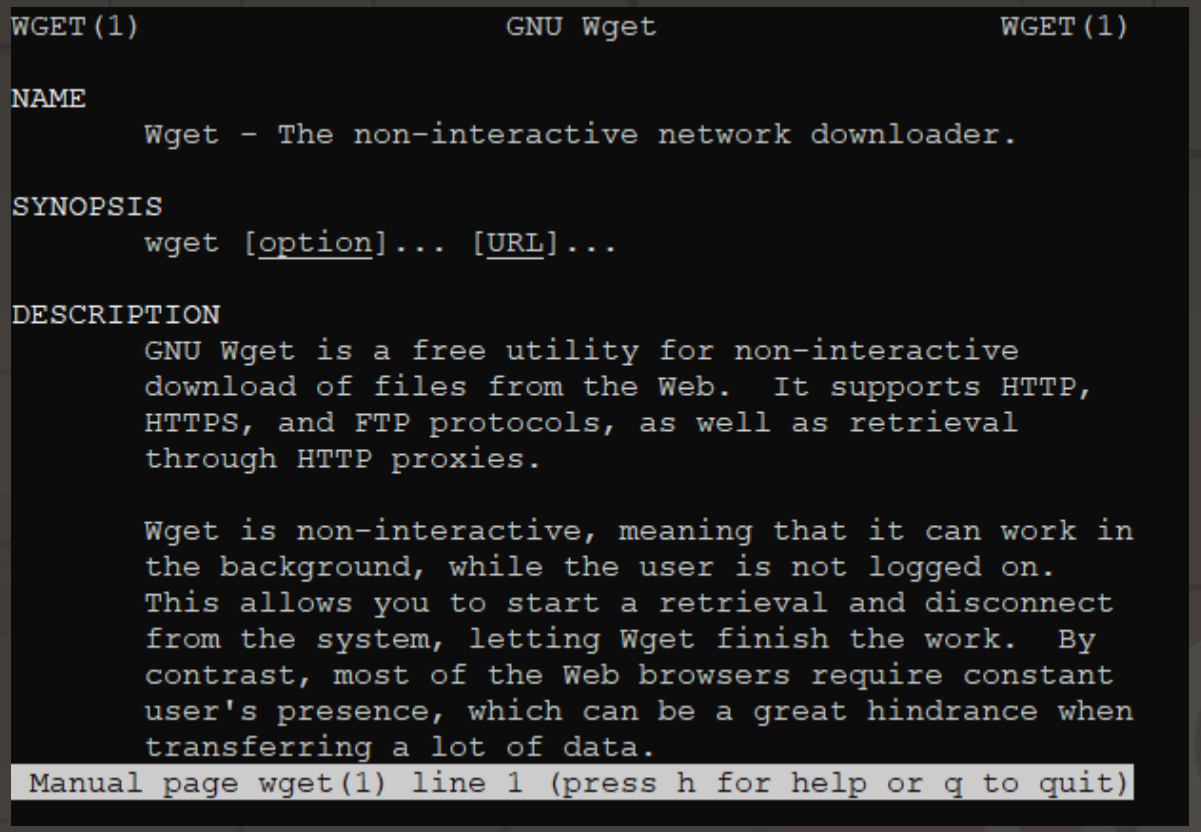
Help is accessible

- `[command] -h` or `[command] --help` often works
- `man [command]` retrieves manual (q to close)



Now project

With cheat sheet

Use our course network

SSID: raspberry-network
PSK: yook7Wor

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Sett opp en Minecraft-server

1. Connect to Pi over SSH
2. Create folder with name «Minecraft» in /home/pi
3. Install Java (name: `default-jre`)
4. Find out how `wget` works
5. Find server.jar on https://folk.ntnu.no/carljgu/min%20mappe/rasp.html, og last den ned med `wget`
6. Try to run the command as given on the website. Read error message
7. Fix «error»
8. Set the server's "Message of the day" (MOTD) to your group number
9. Try again and connect