

Wandern native Anwendungen ins Web?

Ein Selbstversuch

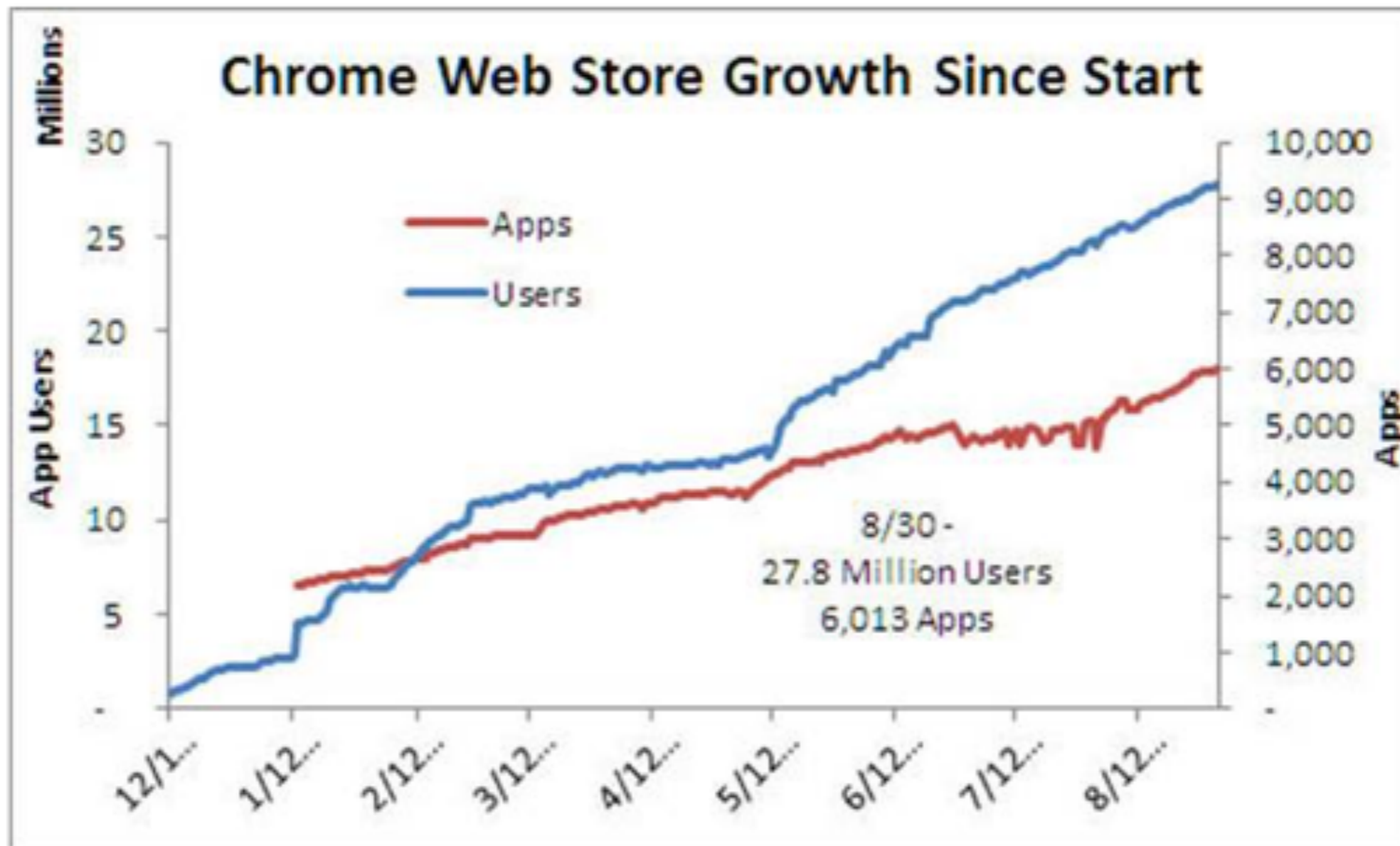
Jan Jamaszyk, Damien Klinnert

Web Apps?!

The screenshot displays the Chrome Web Store interface. On the left is a navigation sidebar with categories like 'Meine Apps', 'Startseite', 'Bellebt', 'Trends', 'Sammlungen', 'Geschäfts-Tools', 'Lernen', 'Lifestyle', 'News & Wetter', 'Produktivität', 'Serviceprogramme', 'Soziale Netze & Kommunikation', 'Spiele', 'Unterhaltung', 'Erweiterungen', and 'Designs'. The main area shows a grid of 12 web app tiles, each with a title, user count, and a 'G' icon for Google apps. The tiles are: YouTube (10,000,000+ Nutzer), Gmail (10,000,000+ Nutzer), Angry Birds (10,000,000+ Nutzer), Entanglement (7,807,391 Nutzer), Poppit (7,580,972 Nutzer), Adblock (5,825,131 Nutzer), Adblock Plus (Beta) (3,469,062 Nutzer), Google Kalender (2,678,904 Nutzer), Google Mail-Checker (2,616,130 Nutzer), Google Docs (2,345,856 Nutzer), Google Maps (2,330,759 Nutzer), FB Photo Zoom (1,914,064 Nutzer), Evernote Web Clipper (1,689,779 Nutzer), Plants vs Zombies (1,626,604 Nutzer), Turn Off the Lights (1,564,328 Nutzer), and Offline Google Mail (1,479,065 Nutzer).

App Name	User Count
YouTube	10,000,000+
Gmail	10,000,000+
Angry Birds	10,000,000+
Entanglement	7,807,391
Poppit	7,580,972
Adblock	5,825,131
Adblock Plus (Beta)	3,469,062
Google Kalender	2,678,904
Google Mail-Checker	2,616,130
Google Docs	2,345,856
Google Maps	2,330,759
FB Photo Zoom	1,914,064
Evernote Web Clipper	1,689,779
Plants vs Zombies	1,626,604
Turn Off the Lights	1,564,328
Offline Google Mail	1,479,065

Nutzerzahlen



thecromesource.com <http://bit.ly/K8pQu9>

Entwicklung

JavaScript, AJAX, HTML5,
CSS3, NoSQL, JSON, single
page app, Rails, node.js,
responsive, PhoneGap,
5APPS, appcelerator, jQuery,
backbone.js

native vs web

- + Datensicherung
 - + Keine Updateproblematik
 - + Nutzerfreundlichkeit
 - + Mehrwertdienste
 - + Kollaboration
- Datenschutz
 - Intransparenz
 - Kontrollverlust

Unser Experiment

- Fragestellung: Wie weit ist die Technik?
- 1 Monat lang **nur** Chrome OS
- bisherige Rechner nutzen

Die Installation

Die Referenz

The screenshot shows a web browser window with several tabs open. The active tab is titled "Chromium OS Developer Guide" and the address bar shows the URL "www.chromium.org/chromium-os/developer-guide". The page content includes a navigation sidebar on the left with links for Home, Chromium, Chromium OS, Quick links (Report bugs, Discuss, Sitemap), and Other sites (Chromium Blog, Google Chrome Extensions, Google Chrome Frame). The main content area is titled "Chromium OS > Chromium OS Developer Guide" and contains an Introduction, Target audience, and Organization & content sections. A table of contents (Inhalt) is also visible on the right side of the page.

The Chromium Projects

[Home](#)
[Chromium](#)
[Chromium OS](#)

Quick links
[Report bugs](#)
[Discuss](#)
[Sitemap](#)

Other sites
[Chromium Blog](#)
[Google Chrome Extensions](#)
[Google Chrome Frame](#)

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The Chromium OS designs and code are preliminary. Expect them to evolve.

[Chromium OS >](#)
Chromium OS Developer Guide

Introduction
This guide describes how to work on Chromium OS. If you want to help develop Chromium OS and you're looking for detailed information about how to get started, you're in the right place. You can also use the [quick-start guide](#) instead, which gives just the basic steps that work for most people.

Target audience
The target audience of this guide is anyone who wants to obtain, build, or contribute to Chromium OS. That includes new developers who are interested in the project and who simply want to browse through the Chromium OS code, as well as developers who have been working on Chromium OS for a long time.

Organization & content
This guide describes the common tasks required to develop Chromium OS. The guide is organized linearly, so that developers who are new to Chromium OS can follow the tasks in sequence. The tasks are grouped into the following sections:

- [Preliminary requirements](#)
- [Getting the source code](#)
- [Building Chromium OS](#)

Inhalt

- 1 Introduction
 - 1.1 Target audience
 - 1.2 Organization & content
 - 1.3 Typography conventions
 - 1.4 Modifying this document
 - 1.5 Additional information
- 2 Preliminary requirements
- 3 Getting the source code
 - 3.1 Install git, subversion, and curl
 - 3.2 Install depot_tools
 - 3.3 Configure git
 - 3.4 Preparations if you are committer
 - 3.5 Double-check that you are running a 64-bit architecture
 - 3.6 Decide where your source will live
 - 3.7 Decide if you want the minilayout
 - 3.8 Get the source code
- 4 Building Chromium OS
 - 4.1 Create a chroot
 - 4.2 Enter the chroot
 - 4.3 Select a board
 - 4.4 Initialize the build for a board
 - 4.5 Set the chronos user password
 - 4.6 Build the packages for your board

Vorraussetzungen

- 64-Bit OS
- Ubuntu empfohlen, Debian verwendet
- benötigte Pakete: git, curl, svn, depot_tools (repo)

Konfiguration

- git konfigurieren
- gerrit.chromium.org in `.ssh/known_hosts`
- repo initialisieren (mini / full layout)
- repo sync

repo sync

```
e7ac310..759a96d  master    -> cros/master
Fetching projects: 100% (200/200), done.
Deleting obsolete path /home/jan/ChromiumOs/chromium/src/third_party/skia/third_party/glu
Deleting obsolete path /home/jan/ChromiumOs/src/platform/crash
Deleting obsolete path /home/jan/ChromiumOs/src/platform/dump-syms
Deleting obsolete path /home/jan/ChromiumOs/src/platform/entd
Deleting obsolete path /home/jan/ChromiumOs/src/platform/window_manager
Deleting obsolete path /home/jan/ChromiumOs/src/third_party/alsa-lib
Deleting obsolete path /home/jan/ChromiumOs/src/third_party/alsa-utils
Checking out files: 100% (405/405), done. out files: 31% (128/405)
Checking out files: 100% (11776/11776), done. ut files: 10% (1273/11776)
Checking out files: 100% (11228/11228), done. ut files: 31% (3524/11228)
Syncing work tree: 100% (200/200), done.

chromium/src/third_party/ffmpeg/: discarding 174 commits
chromium/src/third_party/webRTC/: discarding 1086 commits
src/third_party/gcc/: discarding 1 commits
src/third_party/kernel-next/: discarding 1954 commits
src/third_party/kernel/files/: discarding 2429 commits
src/third_party/modemmanager-next/: discarding 653 commits
src/third_party/u-boot/files/: discarding 1115 commits
src/third_party/wpa_supplicant/: discarding 35 commits
Your sources have been sync'd successfully.
jan@debian:~/ChromiumOs$ _
```

Probleme bei repo sync

- Problem mit dem SSL Zertifikat von gerrit.chromium beim zweiten build
- temporäre Lösung: Deaktivierung der SSL Zertifikate von libcurl (.curlrc) und git (export GIT_SSL_NO_VERIFY=1)
- **Wichtig:** danach wieder aktivieren

chroot und Vorbereitungen

```
jan@debian:~/Chromium0s$ ./chromite/bin/cros_sdk
INFO: 21:58:42: Launching sudo keepalive process. This may ask for your password
twice.
[sudo] password for jan:
[sudo] password for jan:
(cr) ((2fbd5af...)) jan@debian ~/trunk/src/scripts $ uname -r
2.6.32-5-amd64
(cr) ((2fbd5af...)) jan@debian ~/trunk/src/scripts $ export BOARD="x86-generic"
(cr) ((2fbd5af...)) jan@debian ~/trunk/src/scripts $ echo $BOARD
x86-generic
(cr) ((2fbd5af...)) jan@debian ~/trunk/src/scripts $ ./setup-board --board=$BOARD
D
-bash: ./setup-board: Datei oder Verzeichnis nicht gefunden
(cr) ((2fbd5af...)) jan@debian ~/trunk/src/scripts $ ./setup_board --board=$BOARD
D
INFO      : Updating chroot
Determining required toolchain updates...
```

setup board

```
build/x86-generic/etc/env.d/05gcc
INFO      : Copying /usr/lib/gcc/i686-pc-linux-gnu/4.6.x-google/libstdc++.so symli
nk and file to /build/x86-generic//usr/lib/gcc/i686-pc-linux-gnu/4.6.x-google/.
INFO      : Adding /usr/lib/gcc/i686-pc-linux-gnu/4.6.x-google to LDPATH in file /
build/x86-generic/etc/env.d/05gcc
>>> Regenerating /build/x86-generic/etc/ld.so.cache...
INFO      : Selecting profile: /home/jan/trunk/src/overlays/overlay-x86-generic/pr
ofiles/base for /build/x86-generic
created wrapper /usr/local/bin/emerge-x86-generic
created wrapper /usr/local/bin/ebuild-x86-generic
created wrapper /usr/local/bin/eclean-x86-generic
created wrapper /usr/local/bin/equery-x86-generic
created wrapper /usr/local/bin/portageq-x86-generic
created wrapper /usr/local/bin/qcheck-x86-generic
created wrapper /usr/local/bin/qfile-x86-generic
created wrapper /usr/local/bin/qlist-x86-generic
created wrapper pkg-config
>>> Emerging (1 of 1) chromeos-base/kernel-headers-2.6.38-r1 from chromiumos for
/build/x86-generic/
>>> Installing (1 of 1) chromeos-base/kernel-headers-2.6.38-r1 to /build/x86-gen
eric/
>>> Recording chromeos-base/kernel-headers in "world" favorites file...
Done!
The SYSROOT is: /build/x86-generic
(cr) ((279f103...)) jan@debian ~/trunk/src/scripts $ _
```

build Ablauf

- **Wichtig:** Auch hier gilt die SSL Problematik
- `set_shared_user_password.sh`
- `build_packages --board=${BOARD}`
- `build_image --board=${BOARD}`
`--noenable_rootfs_verification dev`
- `./image_to_usb.sh --board=${BOARD}`

build packages

```
[1]
[binary N      ] chromeos-base/chromeos-0.0.1-r161 to /build/x86-generic/ USE="X
  bluetooth localssh -bootchart -bootimage -cros_ec -gdmwimax -opengles" [1]

Total: 2 packages (2 new, 2 binaries), Size of downloads: 0 kB
Portage tree and overlays:
 [0] /usr/local/portage/stable
 [1] /usr/local/portage/chromiumos
Pending 0/2, Fetching 2/2, [Time 0m13.0s Load 0.42 0.72 1.61]
Fetched chromeos-base/chromeos-0.0.1-r161 in 0.89s
Fetched app-i18n/ibus-m17n-1.3.3-r5 in 1.26s
Started app-i18n/ibus-m17n-1.3.3-r5 (logged in /tmp/ibus-m17n-1.3.3-r5-tb4rtD)
Completed app-i18n/ibus-m17n-1.3.3-r5 (in 0m2.1s)
Pending 0/2, Building 1/1, [Time 0m16.4s Load 0.42 0.72 1.61]
Started chromeos-base/chromeos-0.0.1-r161 (logged in /tmp/chromeos-0.0.1-r161-X3
_ec6)
Completed chromeos-base/chromeos-0.0.1-r161 (in 0m19.9s)
Pending 0/2, [Time 0m36.2s Load 0.52 0.72 1.59]
Merge complete
Done
Builds complete
Elapsed time: 1m2s
Done
(cr) ((279f103...)) jan@debian ~/trunk/src/scripts $ _
```


build image

```
INFO      : Unmounting image from /home/jan/trunk/src/build/images/x86-generic/R21-2329.0.2012_01_25_0217-a1/stateful_dir and /home/jan/trunk/src/build/images/x86-generic/R21-2329.0.2012_01_25_0217-a1/rootfs_dir
/home/jan/trunk/src/build/images/x86-generic/R21-2329.0.2012_0* on /home/jan/trunk/src/build/images/x86-generic/R21-2329.0.2012_01_25_0217-a1/stateful_dir type ext4 (rw,relatime,barrier=1,data=ordered)
Cleaning up /usr/local symlinks for /home/jan/trunk/src/build/images/x86-generic/R21-2329.0.2012_01_25_0217-a1/stateful_dir/dev_image
INFO      : Running /home/jan/trunk/src/scripts/build_library/generate_au_zip.py -o /home/jan/trunk/src/build/images/x86-generic/R21-2329.0.2012_01_25_0217-a1 for generating AU updater zip file
2012/01/25 02:38:25 - generate_au_zip.py - INFO      : Generated /home/jan/trunk/src/build/images/x86-generic/R21-2329.0.2012_01_25_0217-a1/au-generator.zip
Done. Image(s) created in /home/jan/trunk/src/build/images/x86-generic/R21-2329.0.2012_01_25_0217-a1
Developer image created as chromiumos_image.bin
Elapsed time: 20m36s
To copy to USB keyfob, do something like:
  ./image_to_usb.sh --from=../build/images/x86-generic/R21-2329.0.2012_01_25_0217-a1 --to=/dev/sdX
To convert to VMWare image, INSIDE the chroot, do something like:
  ./image_to_vm.sh --from=../build/images/x86-generic/R21-2329.0.2012_01_25_0217-a1 --board=x86-generic
from the scripts directory where you entered the chroot.
(cr) ((279f103...)) jan@debian ~/trunk/src/scripts $ _
```

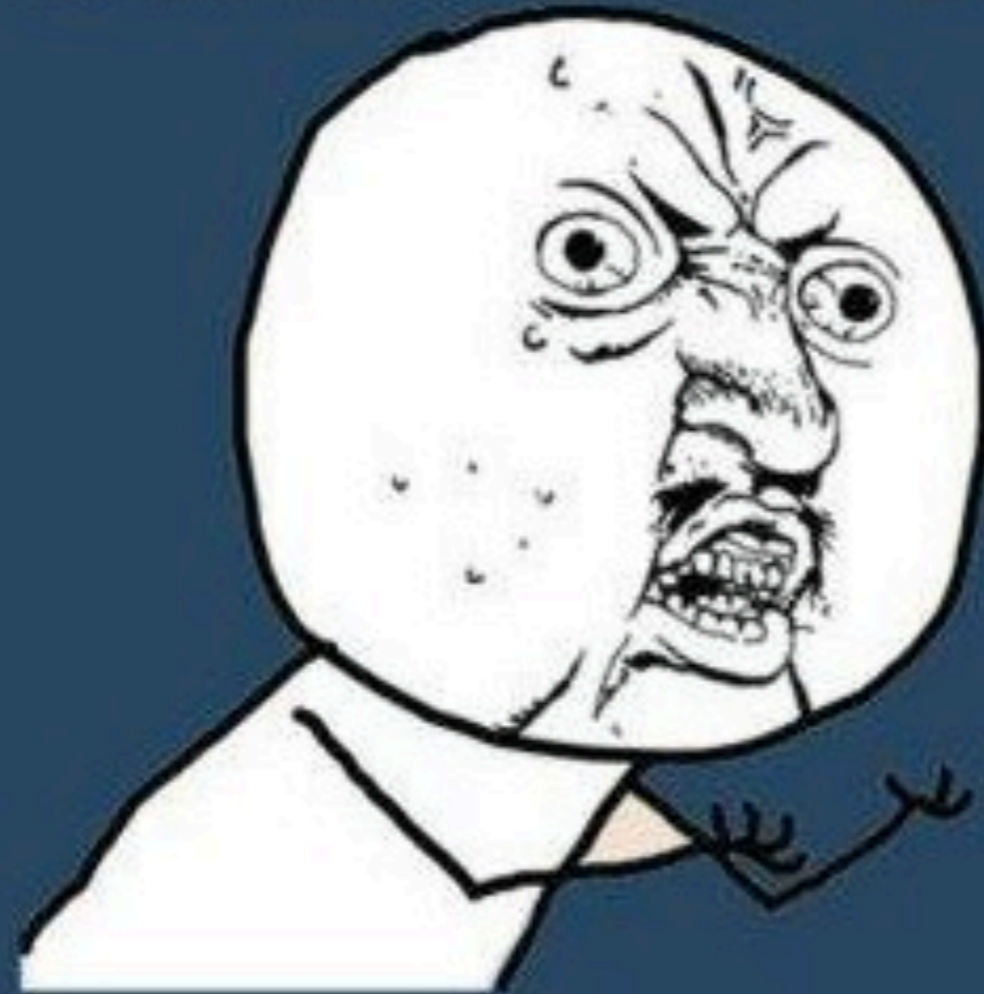
image to usb

```
./image_to_vm.sh --from=../build/images/x86-generic/R21-2329.0.2012_01_25_0217
-a1 --board=x86-generic
from the scripts directory where you entered the chroot.
(cr) ((279f103...)) jan@debian ~/trunk/src/scripts $ [28831.879839] sd 3:0:0:0:
[sdb] Assuming drive cache: write through
[28831.907174] sd 3:0:0:0: [sdb] Assuming drive cache: write through
[28831.932716] sd 3:0:0:0: [sdb] Assuming drive cache: write through

(cr) ((279f103...)) jan@debian ~/trunk/src/scripts $ fdisk -l
-bash: fdisk: Kommando nicht gefunden.
(cr) ((279f103...)) jan@debian ~/trunk/src/scripts $ ./image_to_usb.sh --board=${
{BOARD}}
No target device specified, autodetecting...
Found /dev/sdb: SanDisk Cruzer Fit, 16.0 GB
No image name specified, autodetecting...
Found default image chromiumos_image.bin
Copying image /home/jan/trunk/src/build/images/x86-generic/R21-2329.0.2012_01_25
_0217-a1/chromiumos_image.bin to device /dev/sdb...
WARNING : this will erase all data on /dev/sdb: SanDisk Cruzer Fit, 16.0 GB
Are you sure (y/N)? y
1,91GB 0:08:05 [4,03MB/s] [=====>] 100%
0+15649 Datensätze ein
0+15649 Datensätze aus
Done.
(cr) ((279f103...)) jan@debian ~/trunk/src/scripts $ _
```

Y U No

CHROME OS



Y U NO WORK IN VMWARE???

quickmeme.com

Was geht?



Was geht?



Chrome Web Store



Google Docs



REST Console



YouTube



Google Mail



Google Kalender



Google Maps



TweetDeck



Picasa



Evernote Web



Google Reader



Scratchpad



Daum Equation Editor



Google I/O: input/ou...



Wunderlist



Prezi



Cloud9



To do List

Was geht nicht?

Installiere WordPress auf einen FTP Server?

Fazit

- Technik existiert bereits, Interesse auch
- Der Großteil der Anwendungsfälle ist bereits abgedeckt
- Auch mit modernen Browsern kommt es immer wieder zu kleineren Fehlern

Woran hängt es?

- Fehlender Netzausbau
- Gesetzeslage unklar
- Mangel an guten Geräten
- Schlussrant - Das neue UI von Chrome OS

Vielen Dank

- <http://www.chromium.org/chromium-os/developer-guide>
- <http://www.thechromesource.com/>