

# Unattended Install of Ubuntu

Unattended Installation of (X)Ubuntu  
by Example of ADIA Install

# Overview

- Prerequisites
- Preparation
- Start of installation
- Selection of installation options
- Running installation

# Prerequisites

- Installation medium
  - Best to start with Ubuntu Server
- Computer to prepare installation

# Overview

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# Preparation

- Image must be unpackaged (as root)

```
# mount -t iso9660 -o loop <image> <mnt-point>
```

```
# cp <mnt-point>/* <target>/iso
```

- All further path are relative to <target>

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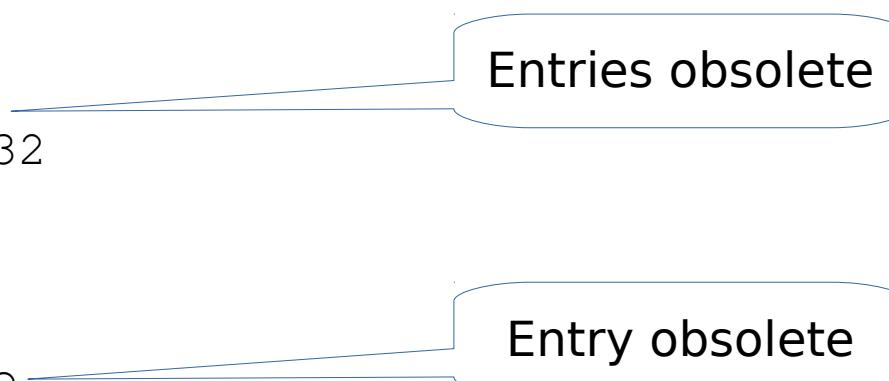
# Start of Installation

- Normally the installation does not start automatically
- Starting of installation depends on booting method:
  - BIOS: Adjust bootmenu in iso/isolinux
  - (U)EFI: Adjust grub config in iso/boot/grub

# Bootmenu in /isolinux (1)

- The entry point for BIOS boot is iso/isolinux/isolinux.cfg:

```
# D-I config version 2.0  
  
# search path for the c32 support libraries (libcom32, libutil  
etc.)  
  
path  
  
include menu.cfg  
  
default vesamenu.c32  
  
prompt 0  
  
timeout 0  
  
ui gfxboot bootlogo
```



A diagram consisting of two blue callout boxes. One box points to the line "include menu.cfg" and contains the text "Entries obsolete". The other box points to the line "ui gfxboot bootlogo" and contains the text "Entry obsolete".

# Bootmenu in /isolinux (2)

- Add a new default boot entry in iso/isolinux/isolinux.cfg:

```
default my-install

label my-install
    menu label ^My Install
    kernel /install/vmlinuz
    append file=/cdrom/preseed/ubuntu-server.seed vga=788
initrd=/install/initrd.gz quiet --
```

# Start of Installation

- Normally the installation does not start automatically
- Starting of installation depends on booting method:
  - BIOS: Adjust bootmenu in iso/isolinux ✓
  - (U)EFI: Adjust grub config in iso/boot/grub

# Bootmenu in /grub (1)

- The entry point for (U)EFI boot is /boot/grub/grub.cfg:

...

```
set menu_color_normal=white/black  
set menu_color_highlight=black/light-gray
```

```
set timeout=2
```

Needed to start  
installation automatically

Menuentry

...

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# Selection of Installation Options

- Prepare selection
- Unmount installation target
- Selection of general options (e.g. language)
- External repositories
- Installation packages
- Boot loader
- Customization scripts
- Sources

# Prepare Selection

- Selection preparation can be done via initrd
- To prepare selection via initrd it must be extracted (make folder initrd besides iso):

```
$ cd initrd  
$ gzip -d < ../../iso/install/initrd.gz | \  
cpio --extract --verbose \  
--make-directories --no-absolute-filenames
```

- Configuration file initrd/preseed.cfg

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# Unmount installation target

- Configuration file initrd/preseed.cfg
- Unmount possible installation targets

```
d-i partman/early_command string \  
USBDEV=$(list-devices usb-partition | sed "s/\(.*\)./\1/"); \  
BOOTDEV=$(list-devices disk | grep -v "\$USBDEV" | head -1); \  
debconf-set partman-auto/disk $BOOTDEV; \  
debconf-set grub-installer/bootdev $BOOTDEV; \  
umount /media;
```

Run command early  
during installation

Unmount installation  
target

Find all partitions

Configure partition  
manager to use HDD

# Selection of Installation Options

- Prepare selection ✓
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# Selection of General Options (1)

- Configuration file initrd/preseed.cfg
- Configure localization

```
d-i debian-installer/locale string en_US  
d-i console-setup/ask_detect boolean false  
d-i keyboard-configuration/layoutcode string de
```

Select the locale

Disable the question

Select the keyboard layout

# Selection of General Options (2)

- Configuration file initrd/preseed.cfg
- Configure network

Choose interface automatically

```
d-i netcfg/choose_interface select auto
```

```
d-i netcfg/get_hostname string my-laptop
```

Set hostname

```
d-i netcfg/get_domain string unassigned-domain
```

```
d-i netcfg/wireless_wep string
```

Set domain

Set WEP password to empty string

# Selection of General Options (3)

- Configuration file initrd/preseed.cfg
- Configure default user

```
d-i passwd/user-fullname string Guest
```

```
d-i passwd/username string guest
```

```
d-i passwd/user-password password guest
```

```
d-i passwd/user-password-again password guest
```

```
d-i passwd/auto-login boolean true
```

```
d-i user-setup/allow-password-weak boolean true
```

```
d-i user-setup/encrypt-home boolean false
```

# Selection of General Options (4)

- Configuration file initrd/preseed.cfg
- Configure time

```
d-i clock-setup/utc boolean true
```

```
d-i time/zone string CET
```

```
tzsetup-udeb time/zone string CET
```

```
d-i clock-setup/ntp boolean true
```

```
d-i clock-setup/ntp-server string ntp.example.com
```

Set clock to UTC

Set timezone to CET

Set up ntp

# Selection of General Options (5)

- Configuration file initrd/preseed.cfg
- Configure partitioning (1)

```
d-i partman-auto/method string lvm  
d-i partman-lvm/device_remove_lvm boolean true  
d-i partman-md/device_remove_md boolean true  
d-i partman-lvm/confirm boolean true
```

Define partition method

Remove old partitions

Confirm partitioning

# Selection of General Options (6)

- Configuration file initrd/preseed.cfg
- Configure partitioning (2)

```
d-i partman-auto-lvm/guided_size string max
```

Add all to the partition

```
d-i partman-auto/choose_recipe select atomic
```

Put all into a single partition

```
d-i partman/default_filesystem string ext4
```

Select fs

```
d-i partman-partitioning/confirm_write_new_label \
```

```
boolean true
```

```
d-i partman/choose_partition select finish
```

Confirm partition changes

```
d-i partman/confirm boolean true
```

```
d-i partman/confirm_nooverwrite boolean true
```

# Selection of Installation Options

- Prepare selection ✓
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# External Repositories

- Configuration file initrd/preseed.cfg

```
d-i apt-setup/local0/repository string \  
https://dl.google.com/linux/chrome/deb/ stable main
```

```
d-i apt-setup/local0/key string \  
https://dl.google.com/linux/linux_signing_key.pub
```

Define the repository to add

Add the key of the repository

# Selection of Installation Options

- Prepare selection ✓
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# Installation Packages

- Configuration file `initrd/preseed.cfg`

```
d-i tasksel/first multiselect standard
```

```
d-i pkgsel/include string xubuntu-desktop \
```

```
libreoffice chromium-browser google-chrome-stable
```

```
d-i pkgsel/upgrade select full-upgrade
```

```
d-i pkgsel/language-packs multiselect en, de
```

```
d-i pkgsel/update-policy select \
```

```
unattended-upgrades
```

Standard packages

Additional packages

Upgrade policy (during installation)

Update policy (after installation)

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# Boot Loader

- Configuration file initrd/preseed.cfg

```
d-i grub-installer/only_debian boolean true
```

```
d-i grub-installer/with_other_os boolean true
```

Install grub

```
d-i finish-install/reboot_in_progress note
```

Direct reboot

# Selection of Installation Options

- Prepare selection ✓
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# Customization Scripts (1)

- Configuration file initrd/preseed.cfg
- To add custom scripts add them to iso/
- Execution of custom scripts (1)

```
d-i preseed/late_command string \
in-target sed -i
's/GRUB_CMDLINE_LINUX_DEFAULT=""'/GRUB_CMDLINE_LINUX_DEFAULT="quiet
splash'/g' /etc/default/grub ; \
in-target update-grub ; \
```

Show splash on boot

# Customization Scripts (2)

- Configuration file initrd/preseed.cfg
- The example uses scripts in iso/configuration
- Execution of custom scripts (2)

```
in-target cp /media/cdrom/configuration/configure.sh  
/usr/local/bin/ ;\  
  
in-target cp /media/cdrom/configuration/home.tar.gz /home ;\  
in-target chmod +x /usr/local/bin/configure.sh ;\  
in-target /usr/local/bin/configure.sh
```

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# Sources

- Complete example of preseed:

<https://www.debian.org/releases/stable/example-preseed.txt>

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# Running Installation (1)

- Create an initrd

```
cd initrd  
find . | \  
cpio -H newc --create --verbose | \  
gzip -9 > ../../iso/install/initrd.gz
```

# Running Installation (2)

- Create an ISO image for running

```
genisoimage -o unattended-xubuntu.iso \
-r -J -no-emul-boot -boot-load-size 4 \
-boot-info-table \
-b isolinux/isolinux.bin \
-c isolinux/boot.cat ./iso
```

# Running Installation (3)

- Create a CD/DVD of the ISO image
- „Burn“ the image to an USB stick

# Git Repository

- <https://github.com/uweplonus/adia-install>