Upgrade Debian 10 to Debian 11

This walk-through explains the steps to upgrade from Debian 10 to Debian 11. Since I had to upgrade my motherboard (after 16 years of operation!) (see Machines) I could not access the internet before upgrading Debian to *Bullseye*. In my specific case this is because the *B550m* motherboard from Asrock is equipped with a Realtek RTL8111H NIC which is only supported in kernels newer than 4.19, and Debian 10 is still based on Linux kernel 4.19. Several attempts to install a newer Realtek driver failed, therefore I decided to upgrade to Debian 11 offline through an iso image.

Steps

1. Backup essential folders and files
   - `/etc`
   - `/var/lib/dpk`
   - `/var/lib/apt/extended_states`
   - output of `dpkg –get-selections “*”`

     ```
     sudo dpkg --get-selections "*" > selections
     ```

   - `/home` directory and hidden files to prevent some applications from overwriting existing user settings with new defaults
2. Download Debian iso file and copy it to your host's home directory. Make sure you download the iso containing all desktop environments, or the one matching your installed desktop environment.
3. Add the iso file to fstab so it will mount when rebooting. At the bottom of fstab enter the following line:

   ```
   /home/user/debian-11.6.0-amd64-DVD-1.iso /media/cdrom/ iso9660 loop 0 0
   ```

4. Record the session. It is strongly recommended that you use the /usr/bin/script program to record a transcript of the upgrade session. Then if a problem occurs, you will have a log of what happened, and if needed, can provide exact information in a bug report. To start the recording, type:

   ```
   script -t 2>~/upgrade-bullseye1.time -a ~/upgrade-bullseye1.script
   ```

5. Do a minimal system upgrade first:

   ```
   sudo apt upgrade --without-new-pkgs
   ```

6. Avoid libreoffice to be installed. Hold the package:

   ```
   sudo apt-mark hold libreoffice*
   ```

7. Do the distro upgrade:

   ```
   sudo apt full-upgrade
   ```

8. Remove the hold:

```
sudo apt-mark unhold libreoffice*
```

Show all packages on hold:

```
sudo apt-mark showhold
```

9. After you have completed the upgrade, you can stop script by typing exit at the prompt. If you have used the -t switch for script you can use the scriptreplay program to replay the whole session:

```
sudo scriptreplay ~/upgrade-bullseyestep.time ~/upgrade-
bullseyestep.script
```

10. Remove folders which should but could not be removed during the upgrade
11. Remove obsolete packages

```
sudo apt autoremove
```

12. Configure NIC:

```
sudo vim /etc/network/interfaces
```

Replace content with:

```
# The loopback network interface
auto lo
iface lo inet loopback

# The primary network interface
auto enp0s5
iface enp0s5  inet static
 address 192.168.2.236
 netmask 255.255.255.0
 gateway 192.168.2.254
 dns-domain sweet.home
 dns-nameservers 192.168.2.254
```

13. Reboot, then check internet is accessible
14. Change host name

```
sudo hostnamectl set-hostname <new-host-name>
sudo vim /etc/hosts
```

Links

- Upgrade without internet How to upgrade Debian 10 to Debian 11 without internet?
- Mount iso How to mount an ISO image/file under Linux
- Mount using fstab:Mount ISO using fstab (Linux tutorial)
- Backup How to Upgrade Debian 10 to Debian 11

- Debian Upgrades from Debian 10 (buster)
- Network Linux Show / Display Available Network Interfaces
- Network How to set up static IP address on Debian Linux 10/11
- Apt sources Add Debian 11 Bullseye official repositories to sources.list
- Hold packages How to prevent updating of a specific package?
- Host name Change hostname on Debian

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