# Salix 15.0 Installer:
# Standard Edition (64-bit)

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# Contents

## Abstract

This guide is unofficial but I hope that it will be helpful to new users. If you read through this guide before installing Salix 15.0, you will have an idea of what to expect during the process.

The 64-bit Salix ISO (Salix64 Xfce 15.0) can be downloaded from `https://salixos.org/download.html`. It is the "traditional" ISO that boots into the standard Salix installer.

It is not a Live image; however, if you want to try out Salix in a Live environment, a SalixLive64 Xfce 15.0 ISO is available. (You may install SalixLive64 Xfce to your hard disk using the Salix Live Installer [SLI] — which is completely different from the standard Salix installer.)

# 1 Background

Salix 15.0 was released on 5 Sept. 2022, seven months after the release of Slackware 15.0 (on 2 Feb. 2022). gapan produced a series of prereleases from April 2022 through August 2022; the Salix community tested them, offering feedback and suggestions.

Although the installer has received several updates under the hood, on the surface it is still the same text-based installer that Salix has always used. It is a modified version of the ncurses interface used by Slackware's installer. (It will immediately be familiar to anyone who has installed Slackware before.)

The installer might look intimidating — but don't fear. The installer presents you with a set of dialogs where you must make intelligent choices, including partitioning. In addition, Salix follows Slackware's use of LILO (Linux Loader) as the bootloader rather than GRUB.[1] If you take time to read the installer's dialogs, and work carefully and methodically, you should not have any surprises.

There is a (minor) difference between non-UEFI and UEFI installations. If you install in Legacy mode (BIOS / MBR setup), the cfdisk utility is used at the partitioning stage and LILO is the default boot loader.

If your computer supports UEFI and you install Salix in UEFI mode, the disk partitioner utility is cgdisk and ELILO (EFI Linux Loader) will be used as the boot loader.

## 2 Installer walkthrough

All of the screenshots were taken inside virtual machines using Oracle VirtualBox ver. 7.0.

## 3 If your computer does not support UEFI

And you need to install in Legacy mode (BIOS / MBR setup), follow the instructions below.

If your computer **supports UEFI**, jump to Section 4.

### 3.1 Preliminaries

You first select the language to be used during the installation process — not the language of the final, installed OS. (You will choose that in a later step. See Section 11 for more details.)

- I chose "Install Salix 15.0 in English (USA)":

---

[1]LILO (Linux Loader) is a boot loader for Linux. LILO was the default boot loader for most Linux distributions in the early days. When Slackware was launched (1993), GRUB did not exist.

Although LILO development ended in 2015, LILO still "just works" and its configuration is simpler than GRUB2. So Slackware / Salix has continued to use LILO for historical reasons. In addition, changing from LILO would require rewriting the Slackware install script to incorporate GRUB (when there are probably a lot more important things for Patrick Volkerding and his small team to work on).

ELILO (EFI Linux Loader) is the LILO variant for EFI-based PC hardware. The ELILO project was orphaned in 2014; however, ELILO is complete and therefore (like LILO) does not require any maintenance.

```
Select your language then press [Enter], or [F1] for help.
┌──────────────────────────────────────────────────────────┐
│            Installation of Salix 15.0 (64-bit)           │
│                                                          │
│  Install Salix 15.0 in Catalan                           │
│  Install Salix 15.0 in Dutch                             │
│  Install Salix 15.0 in English (Great Britain)           │
│  Install Salix 15.0 in English (USA)                     │
│  Install Salix 15.0 in French                            │
│  Install Salix 15.0 in German                            │
│  Install Salix 15.0 in Greek                             │
│  Install Salix 15.0 in Hungarian                         │
│  Install Salix 15.0 in Italian                           │
│  Install Salix 15.0 in Polish                            │
│  Install Salix 15.0 in Portuguese (Brazil)               │
│  Install Salix 15.0 in Portuguese (Portugal)             │
└──────────────────────────────────────────────────────────┘
```

- At the command prompt, type " setup " to continue:

```
Welcome to the Salix installation!

You may type "setup" to start the installation (or you can just
press the up arrow).

You may also use this installation medium as a rescue system.
You may open additional virtual terminals by using Ctrl-Alt-F1 to F3.
You may see kernel related messages by using Ctrl-Alt-F4.

root@salix64:/# _
```

- "Keep the current keymap" [us.map]:

```
┌──────────────────WELCOME TO THE SALIX INSTALLATION───────────────┐
│Welcome to the installation of Salix, The Bonsai OS!              │
│Before you proceed with the rest of the installation, you might want to│
│select your keyboard map (keymap). The current keymap is us.map.  │
│                                                                  │
│     <Keep the current keymap>      < Select another keymap >     │
└──────────────────────────────────────────────────────────────────┘
```

- Install — "Install Salix using a step-by-step guide":

```
┌────────────────────Salix Installation──────────────────────┐
│You may now proceed with the installation by pressing the ENTER key.│
│                                                            │
│If you want to exit the installation and drop to a linux console, select│
│'Exit installation'                                         │
│    ┌───────────────────────────────────────────────────┐  │
│    │ INSTALL  Install Salix using a step-by-step guide  │  │
│    └───────────────────────────────────────────────────┘  │
│                                                            │
│       <    Select    >        <Exit installation>         │
└────────────────────────────────────────────────────────────┘
```

- Then, press "Select".

## 3.2    Partitions editor

- Select: ( ) `sda disk` (or the appropriate target disk for your computer):

  Tip: Use the Space bar to select a disk ; it should look like " (*) ":
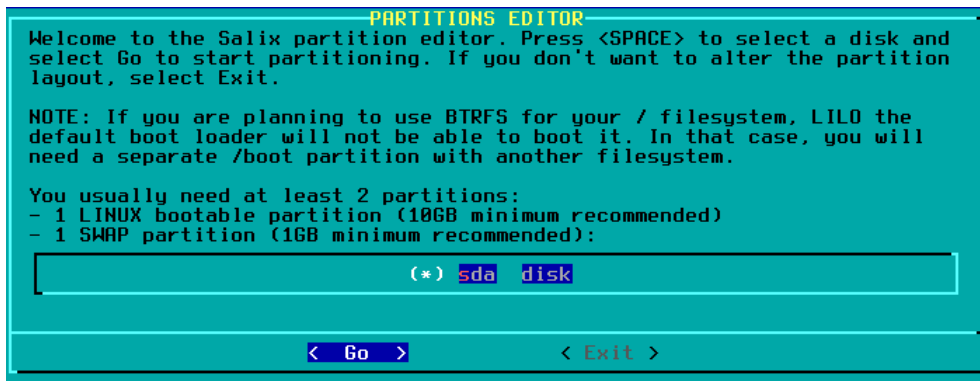


- Then, press: "Go".
- This will start up the cfdisk utility.

  Instead of pasting in screenshots of every stage of the partitioning process, I recommend that you consult the resources in Subsection 17.2 and/or watch cfdisk in action, in the YouTube videos listed in Subsection 17.1.

- Begin by selecting the label type: "dos":



- The cfdisk interface will look something look this:
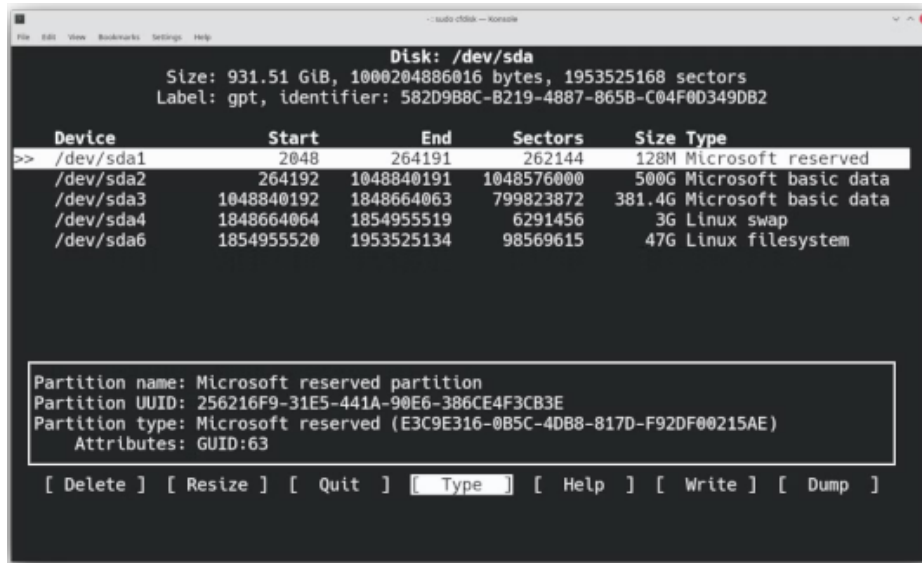
- For this virtual machine, I created a simple partitioning scheme with a rather small swap partition and a small /home partition:

| Use | Size | Primary or Extended? | Type |
|---|---|---|---|
| (*for root*) | 15 GB | Primary | Linux |
| (*for swap*) | 1 GB | Primary | Linux-swap |
| (*for* /home) | 4 GB | Primary | Linux |

- When disk partitioning is finished, you must press the "Write" option to write the changes to your disk.
- When cfdisk asks "Are you sure you want to write the partition table to disk?" Answer "yes".

```
                          Disk: /dev/sda
             Size: 20 GiB, 21474836480 bytes, 41943040 sectors
                      Label: dos, identifier: 0x22e1690c

     Device      Boot      Start         End    Sectors    Size   Id Type
     /dev/sda1             2048    31459327   31457280    15G   83 Linux
>>   /dev/sda2         31459328    33556479    2097152     1G   82 Linux swap
     /dev/sda3         33556480    41943039    8386560     4G   83 Linux

    Partition type: Linux swap (82)

   Are you sure you want to write the partition table to disk?

          Type "yes" or "no", or press ESC to leave this dialog.
```

- Then, select "Quit".

> ✏ **Suggestion:**
>
> If you are uncomfortable with a command-line partitioning tool, an alternative approach is to use GParted in a Live environment to partition your disk beforehand. GParted can handle / manage both MBR disks and GPT disks, plus it has a friendlier GUI (in my opinion). GParted is available on the SalixLive64 Xfce ISO, GParted Live as well as on lightweight, portable distros such as Puppy Linux.

Tip regarding the root partition's size: In my VirtualBox full installations, a baseline for the root partition was 11 GB. This includes a fully updated system, with all multimedia codecs installed as well as the update to Xfce 4.18 packages. (On my current Salix system, the root partition is 50 GB [with several Flatpak apps as well as a full TEX Live install] and it is approximately 50% full.)

## 3.3   Format partitions / Assign mount points

- The next step involves setting up the swap partition.
- The installer should auto-detect your swap and display the message "Swap space detected":

```
Setting up swap partitions.




                        ─SWAP SPACE DETECTED─
           Salix Setup has detected one or more swap partitions on
           your system. These partitions have been preselected to be
           set up as swap space. If there are any swap partitions
           that you do not wish to use with this installation,
           please unselect them with the up and down arrows and
           spacebar. If you wish to use all of them (this is
           recommended), simply hit the ENTER key.

              [*] /dev/sda2  Linux swap partition, 1.0G

                    <  OK  >         <Cancel>
```

- Then, press "OK".
- Check swap partitions for bad blocks? I chose "No".

```
              ─CHECK SWAP PARTITIONS FOR BAD BLOCKS?─
         Salix Setup will now prepare your system's swap
         space. When formatting swap partitions with
         mkswap you may also check them for bad blocks.
         This is not the default since nearly all modern
         hard drives check themselves for bad blocks
         anyway. Would you like to check for bad blocks
         while running mkswap?

              < Yes >          < No  >
```
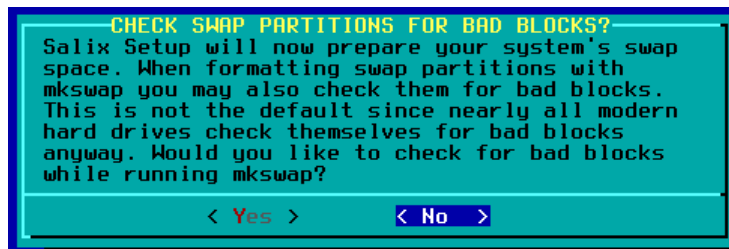
- The swap space will be configured and added to /etc/fstab:

```
                    ─SWAP SPACE CONFIGURED─
     Your swapspace has been configured. This information   will be added to
     your /etc/fstab:

     /dev/sda2        swap              swap           defaults       0   0




                         <  OK  >
```
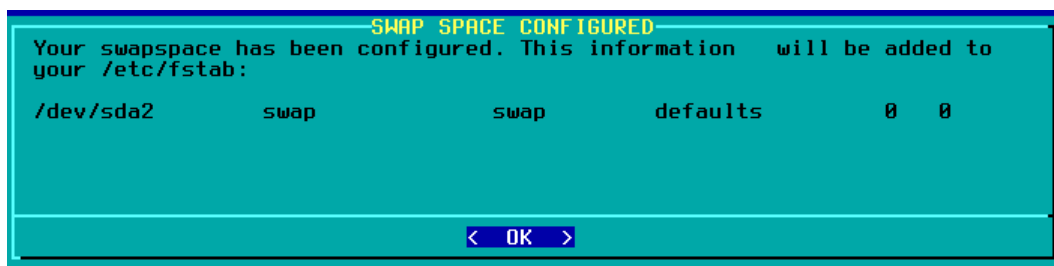
- Then, choose "OK".
- Now you will set up the root Linux partition:
    - I designated /dev/sda1 as my root partition:

```
Setting up root Linux partition.



                    ┌─────Select Linux installation partition:─────┐
Please select a partition from the following list to use for your root (/)
Linux partition.
         ┌──────────────────────────────────────────────────────┐
         │ /dev/sda1  Linux 15G                                  │
         │ /dev/sda3  Linux 4.0G                                 │
         │ ---        (done adding partitions, continue with setup)│
         │ ---        (done adding partitions, continue with setup)│
         │ ---        (done adding partitions, continue with setup)│
         └─↓(+)─────────────────────────────────────────71%──────┘

              <Select>                    <Cancel>
```

- Then, press "Select".
- Do you want to format /dev/sda1?
    - I chose "Format with no bad block checking":

```
                    ─────FORMAT PARTITION /dev/sda1─────
If this partition has not been formatted, you should format it. NOTE: This
will erase all data on it. Would you like to format this partition?
         ┌──────────────────────────────────────────────────────┐
         │ Format  Quick format with no bad block checking       │
         │ Check   Slow format that checks for bad blocks        │
         │ No      No, do not format this partition              │
         └──────────────────────────────────────────────────────┘


              <  OK  >                    <Cancel>
```

- Then, press "OK".
- Select the file system that you want to use for the root partition.
    - I chose "ext4":

```
┌─────────────── SELECT FILESYSTEM FOR /dev/sda1 ───────────────┐
│ Please select the type of filesystem to use for the specified device. │
│ Here are descriptions of the available filesystems: Ext2 is the        │
│ traditional Linux file system and is fast and stable. Ext3 is the      │
│ journaling version of the Ext2 filesystem. Ext4 is the successor to the│
│ ext3 filesystem. F2FS is a Flash-Friendly File System. JFS is IBM's    │
│ Journaled Filesystem, currently used in IBM enterprise servers.        │
│ ReiserFS is a journaling filesystem that stores all files and filenames│
│ in a balanced tree structure. XFS is SGI's journaling filesystem that  │
│ originated on IRIX.                                                     │
│                                                                        │
│     ext2        Standard Linux Ext2 Filesystem                         │
│     ext3        Ext3 Journaling Filesystem                             │
│     ext4        Ext4 Journaling Filesystem                             │
│     jfs         IBM's Journaled Filesystem                             │
│     reiserfs    ReiserFS Journaling Filesystem                         │
│     btrfs       Btrfs Copy-on-Write B-tree Filesystem                  │
│     f2fs        Flash-Friendly File System                             │
│     xfs         SGI's Journaling Filesystem                            │
│                                                                        │
│            < OK >              <Cancel>                                 │
└────────────────────────────────────────────────────────────────────────┘
```

- Then, press "OK".
- Select other Linux partitions for /etc/fstab:
    - I chose " sda3 " [4 GB]:

```
┌─────────────── Select other Linux partitions for /etc/fstab ──────────────┐
│ You seem to have more than one partition tagged as type Linux. You may use │
│ these to distribute your Linux system across more than one partition.       │
│ Currently, you have /dev/sda1 mounted as your / partition. You might want  │
│ to mount directories such as /home or /usr/local on separate partitions.   │
│ You should not try to mount /etc, /sbin, or /bin on their own partitions   │
│ since they contain utilities needed to bring the system up and mount       │
│ partitions. Also, do not reuse a partition that you've already entered     │
│ before. Please select one of the Linux partitions listed below, or if      │
│ you're done, hit <Continue>.                                               │
│                                                                            │
│   (IN USE)   /dev/sda1 on / Linux 15GK                                     │
│   /dev/sda3  Linux 4.0G                                                    │
│   ---        (done adding partitions, continue with setup)                 │
│   ---        (done adding partitions, continue with setup)                 │
│ ↓(+)                                                              57%      │
│            < Select >              <Continue>                              │
└────────────────────────────────────────────────────────────────────────────┘
```

- Then, press "Select".
- Do you want to format /dev/sda3?
    - I chose "Format with no bad block checking":

```
┌─────────────── FORMAT PARTITION /dev/sda3 ───────────────┐
│ If this partition has not been formatted, you should format it. NOTE: This │
│ will erase all data on it. Would you like to format this partition?        │
│                                                                            │
│   Format   Quick format with no bad block checking                        │
│   Check    Slow format that checks for bad blocks                         │
│   No       No, do not format this partition                               │
│                                                                            │
│            < OK >              <Cancel>                                     │
└────────────────────────────────────────────────────────────────────────────┘
```

- Then, press "OK".

- Select the file system that you want to use for the /home partition.
  - I chose "ext4":

```
┌───────────── SELECT FILESYSTEM FOR /dev/sda3 ─────────────┐
│ Please select the type of filesystem to use for the specified device. │
│ Here are descriptions of the available filesystems: Ext2 is the       │
│ traditional Linux file system and is fast and stable. Ext3 is the     │
│ journaling version of the Ext2 filesystem. Ext4 is the successor to the│
│ ext3 filesystem. F2FS is a Flash-Friendly File System. JFS is IBM's   │
│ Journaled Filesystem, currently used in IBM enterprise servers.       │
│ ReiserFS is a journaling filesystem that stores all files and filenames│
│ in a balanced tree structure. XFS is SGI's journaling filesystem that │
│ originated on IRIX.                                                    │
│                                                                       │
│        ext2        Standard Linux Ext2 Filesystem                     │
│        ext3        Ext3 Journaling Filesystem                         │
│        ext4        Ext4 Journaling Filesystem                         │
│        jfs         IBM's Journaled Filesystem                         │
│        reiserfs    ReiserFS Journaling Filesystem                     │
│        btrfs       Btrfs Copy-on-Write B-tree Filesystem              │
│        f2fs        Flash-Friendly File System                         │
│        xfs         SGI's Journaling Filesystem                        │
│                                                                       │
│           <  OK  >                    <Cancel>                        │
└───────────────────────────────────────────────────────────┘
```

- Then, press "OK".
- Select the mount point for /dev/sda3:
  - I typed " /home ":

```
┌───────────── SELECT MOUNT POINT FOR /dev/sda3 ─────────────┐
│ OK, now you need to specify where you want the new partition mounted. For │
│ example, if you want to put it under /usr/local, then respond: /usr/local │
│ Where would you like to mount /dev/sda3?                              │
│                                                                      │
│ /home_                                                               │
│                                                                      │
│           <  OK  >                    <Cancel>                       │
└──────────────────────────────────────────────────────────┘
```

- Then, press "OK".
- A message will display that you are done adding Linux partitions to /etc/fstab:

```
┌───────────── DONE ADDING LINUX PARTITIONS TO /etc/fstab ─────────────┐
│ Adding this information to your /etc/fstab:                          │
│ /dev/sda1          /                    ext4      defaults      1  1 │
│ /dev/sda3          /home                ext4      defaults      1  2 │
│                                                                     │
│                                                                     │
│                                                                     │
│                                                                     │
│                                                                     │
│                                                                     │
│                          <  OK  >                                   │
└─────────────────────────────────────────────────────────────────┘
```
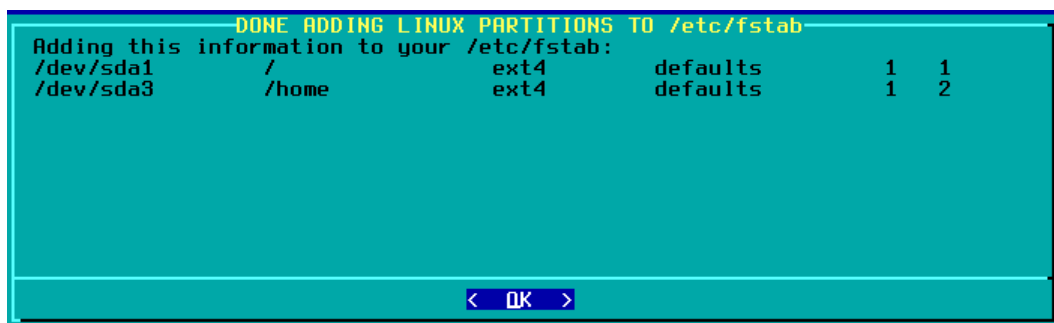
- Press "OK" to continue to the next stage (discussed in Section 5).

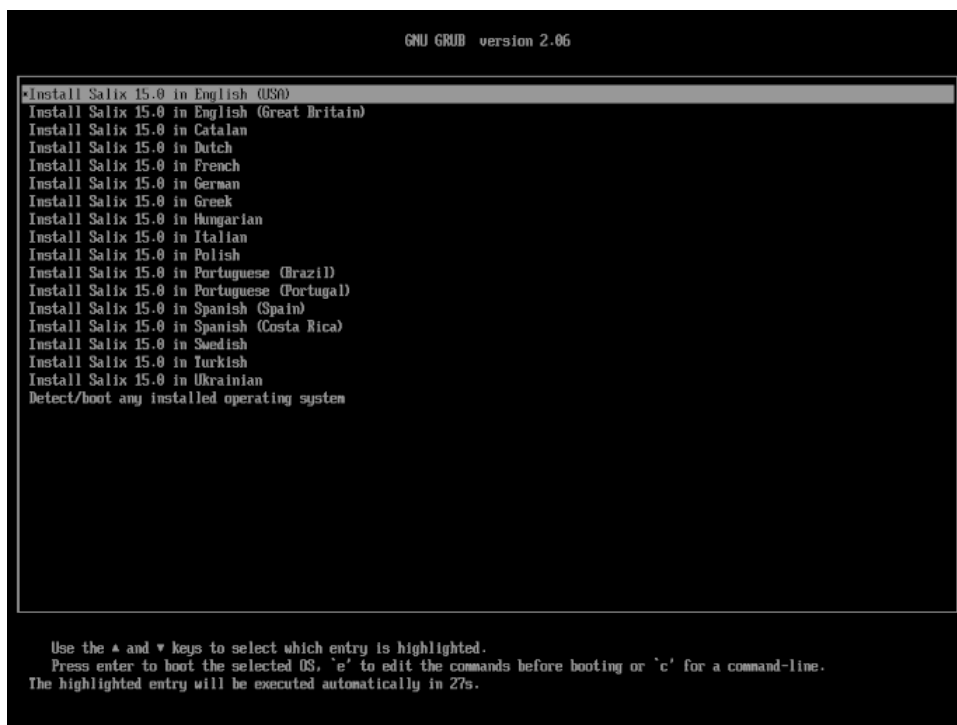# 4   If your computer supports UEFI

And you wish to install in UEFI mode, follow the instructions below.

If your computer does **not** support UEFI and you need to install in Legacy mode (BIOS/MBR setup), return to Section 3 above.

## 4.1   Preliminaries

You first select the language to be used during the installation process — not the language of the final, installed OS. (You will choose that in a later step. See Section 11 for more details.)

- I chose "Install Salix 15.0 in English (USA)":



- At the command prompt, type " setup " to continue:

```
Welcome to the Salix installation!

You may type "setup" to start the installation (or you can just
press the up arrow).

You may also use this installation medium as a rescue system.
You may open additional virtual terminals by using Ctrl-Alt-F1 to F3.
You may see kernel related messages by using Ctrl-Alt-F4.

root@salix64:/# _
```

- "Keep the current keymap" [us.map]:

```
                          WELCOME TO THE SALIX INSTALLATION
 Welcome to the installation of Salix, The Bonsai OS!
 Before you proceed with the rest of the installation, you might want to select your keyboard map
 (keymap). The current keymap is us.map.


          <Keep the current keymap>          < Select another keymap >
```

- Install — "Install Salix using a step-by-step guide":

```
                              Salix Installation
 You may now proceed with the installation by pressing the ENTER key.

 If you want to exit the installation and drop to a linux console, select 'Exit installation'
          INSTALL   Install Salix using a step-by-step guide


          <      Select      >              <Exit installation>
```

## 4.2  Partitions editor

- Select: ( ) sda disk (or the appropriate target disk for your computer):

  Tip: Use the Space bar to select a disk ; it should look like " (*) ":

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```
┌─────────────────────────── PARTITIONS EDITOR ───────────────────────────┐
│ Welcome to the Salix partition editor. Press <SPACE> to select a disk and select Go to start │
│ partitioning. If you don't want to alter the partition layout, select Exit. │
│ │
│ NOTE: If you are planning to use BTRFS for your / filesystem, LILO the default boot loader will │
│ not be able to boot it. In that case, you will need a separate /boot partition with another │
│ filesystem. │
│ │
│ You usually need at least 2 partitions: │
│ - 1 LINUX bootable partition (10GB minimum recommended) │
│ - 1 SWAP partition (1GB minimum recommended): │
│ ┌─────────────────────────────────────────────────────────────────┐ │
│ │ (*) sda   disk │ │
│ └─────────────────────────────────────────────────────────────────┘ │
│ │
│ ─────────────────────────────────────────────────────────────────── │
│ < Go >                    < Exit > │
└──────────────────────────────────────────────────────────────────────────┘
```

- Then, press: "Go".
- This will invoke the cgdisk utility. cgdisk is a component of the GPT (**G**UID **P**artition **T**able) fdisk set of text-mode partitioning tools. It is specifically designed with support for GPT disks.

  I will devote a bit more coverage to cgdisk because I was unfamiliar with the utility, and there are not as many online tutorials for it. For an overview of cgdisk, please read the article by Roderick W. Smith mentioned in Subsection 17.3

- If you see a Warning screen, don't panic . . . This is normal/expected because at this point it may likely be a non-GPT disk:

```
Warning! Non-GPT or damaged disk detected! This program will attempt to
convert to GPT form or repair damage to GPT data structures, but may not
succeed. Use gdisk or another disk repair tool if you have a damaged GPT
disk.
```

- Press any key to continue.
- The cgdisk utility will now start.

```
                        cgdisk 1.0.8

                    Disk Drive: /dev/sda
                    Size: 41943040, 20.0 GiB

Part. #     Size        Partition Type         Partition Name
-----------------------------------------------------------------
            20.0 GiB    free space



















  [ Align  ]  [ Backup ]  [ Help ]  [ Load ]  [  New  ]  [ Quit ]  [ Verify ]
  [ Write  ]

                    Create new partition from free space
```

- Select the "New" option to begin creating a new partition.

  Tip: At the "First sector" prompt line, just press Enter to accept the default value. (This confused me when I first experimented with cgdisk.)

```
First sector (2048-52428766, default = 2048): _  ⬅
```

- On the "Size in sectors" line: "100MB" (or "500GB") is acceptable syntax for indicating the size.

  The first partition needs to be an ESP (EFI System Partition), so you need to change the current file type (`Linux filesystem`) to the file type required for ESP partitions (`efi`). Type "L" to show the codes for the filesystem types:

```
Current type is 8300 (Linux filesystem)
Hex code or GUID (L to show codes, Enter = 8300): L
```

- Since there are (surprisingly) many filesystem types, you can filter the list

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by typing the search string "efi". This will reduce the number of entries displayed:

```
Current type is 8300 (Linux filesystem)
Hex code or GUID (L to show codes, Enter = 8300): L

Type search string, or <Enter> to show all codes: efi
ef00 EFI system partition
```

- In this case, you want the partition hex code of " ef00 ".
  - In the "Hex code" prompt line, type " ef00 "
- Enter the new partition name: /boot/efi

The screenshot below shows creation of the root partition (15 GB) in progress:

```
                              cgdisk 1.0.8

                        Disk Drive: /dev/sda
                        Size: 41943040, 20.0 GiB

Part. #      Size       Partition Type            Partition Name
-----------------------------------------------------------------
             1007.0 KiB  free space
  1          500.0 MiB   EFI system partition      /boot/efi
             19.5 GiB    free space












First sector (1026048-41943006, default = 1026048):
Size in sectors or {KMGTP} (default = 40916959): 15G_
```

Tip: You will notice the small 1007 KiB free space area at the beginning of the disk; that exists because of partition alignment issues.

For root and the /home partition, the hex code is 8300 (`Linux filesystem`). For the swap partition, the hex code is 8200 (`Linux swap`).

Below is the final arrangement of my virtual disk drive:

(Ideally, my EFI system partition [ESP] should be larger (300–500 MB in size), as should my swap and /home partitions. However, this layout was fine for my virtual test environment.)

```
                          cgdisk 1.0.8

                      Disk Drive: /dev/sda
                      Size: 41943040, 20.0 GiB

Part. #      Size        Partition Type          Partition Name
----------------------------------------------------------------
             1007.0 KiB  free space
   1         100.0 MiB   EFI system partition     /boot/esp
   2         15.0 GiB    Linux filesystem         root
   3         1024.0 MiB  Linux swap               swap
   4         3.0 GiB     Linux filesystem         home
             923.0 MiB   free space













Are you sure you want to write the partition table to disk? (yes or no): _

          Warning!! This may destroy data on your disk!
```

Note: You will notice that cgdisk also creates a short gap at the end of the disk, so as to keep the final partition a multiple of the alignment length.

- Select "Write" to write these changes to your disk.
- "Are you sure you want to write the partition table to disk?" Answer: "yes"
- "The operation has completed successfully" message will appear at the bottom of the screen.
- Now, select "Quit".

> 🖉 **Suggestion:**
>
> If you are uncomfortable with a command-line partitioning tool, an alternative approach is to use GParted in a Live environment to partition your disk beforehand. GParted can handle / manage both MBR disks and GPT disks, plus it has a friendlier GUI (in my opinion). GParted is available on the SalixLive64 Xfce ISO, GParted Live as well as on lightweight, portable distros such as Puppy Linux.

Tip regarding the root partition's size: In my VirtualBox full installations, a baseline for the root partition was 11 GB. This includes a fully updated system, with all multimedia codecs installed as well as the update to Xfce 4.18 packages. (On my current Salix system, the root partition is 50 GB [with several Flatpak apps as well as a full TEX Live install] and it is approximately 50% full.)

## 4.3  Format partitions / Assign mount points

The initial three steps below are identical to Subsection 3.3 above for the Legacy/MBR procedure. Please consult Subsection 3.3 to read those steps.
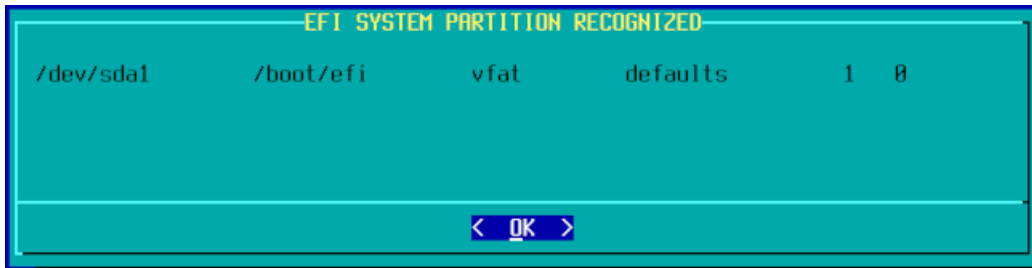
1. Swap space detected . . . Configure and add it to `/etc/fstab`.
2. Select root partition and format it.
3. Select `/home` partition, format it and specify its mount point.

   **Note**: There is a difference at the next stage because of the presence of the EFI system partition:

- "Format EFI partition?" Answer: "Yes"
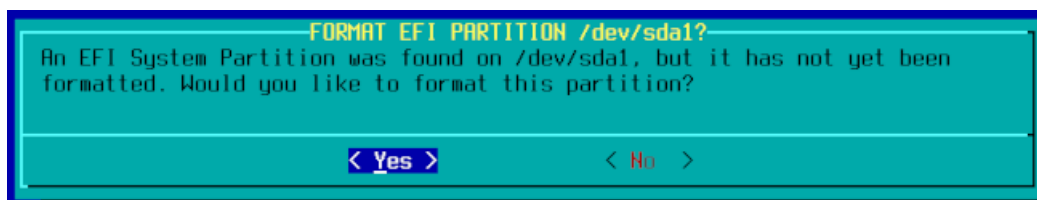


- The EFI partition should be recognized and added to `/etc/fstab`:

```
┌─────────────EFI SYSTEM PARTITION RECOGNIZED─────────────┐
│                                                         │
│  /dev/sda1       /boot/efi      vfat       defaults    1   0 │
│                                                         │
│                                                         │
│                                                         │
│                        <  OK  >                         │
│                                                         │
└─────────────────────────────────────────────────────────┘
```
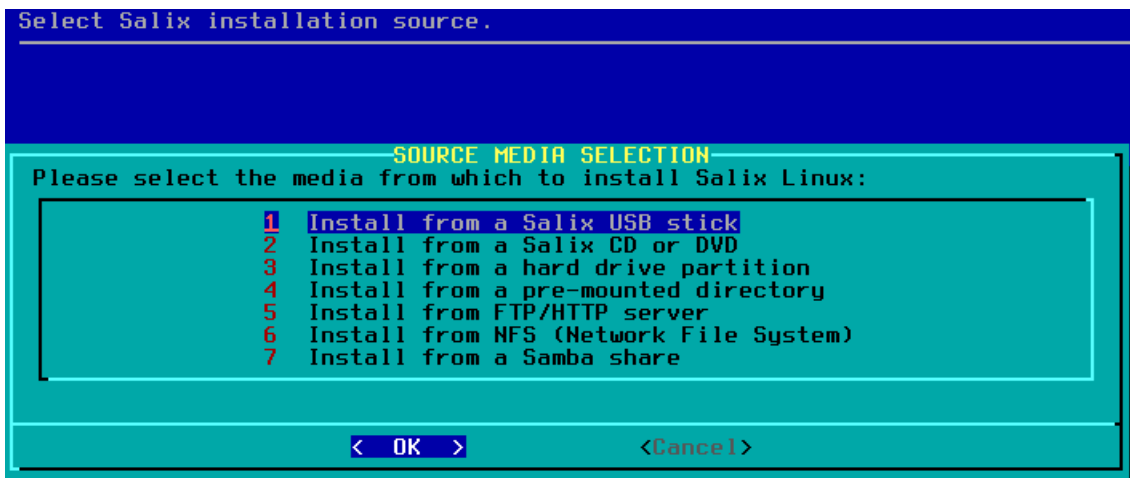
- Press "OK" to continue to the next stage of installation (discussed in Section 5 below.)
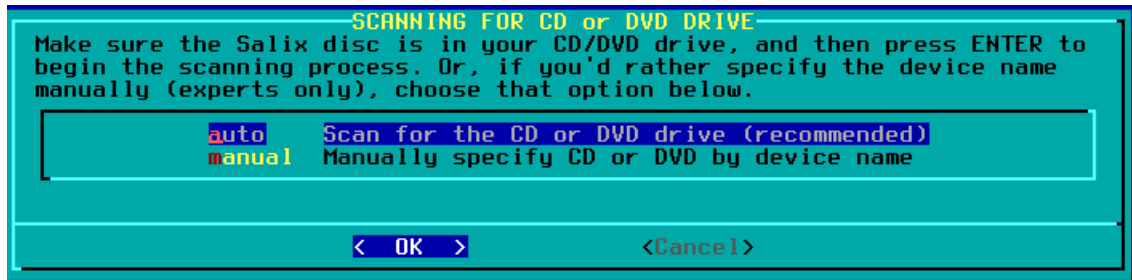
# 5   Select Salix installation source

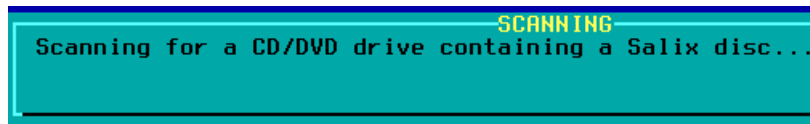- Choose the appropriate source for the installation medium that you are using.

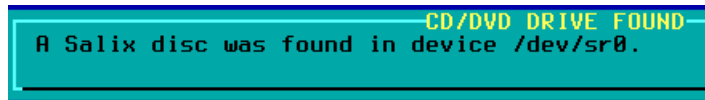  Tip: If you are installing within VirtualBox, choose option number "2".

```
Select Salix installation source.



                    ┌─────────SOURCE MEDIA SELECTION─────────┐
 Please select the media from which to install Salix Linux:
   ┌─────────────────────────────────────────────────────┐
   │      1  Install from a Salix USB stick              │
   │      2  Install from a Salix CD or DVD              │
   │      3  Install from a hard drive partition        │
   │      4  Install from a pre-mounted directory       │
   │      5  Install from FTP/HTTP server               │
   │      6  Install from NFS (Network File System)     │
   │      7  Install from a Samba share                 │
   └─────────────────────────────────────────────────────┘

            <  OK  >              <Cancel>
   └─────────────────────────────────────────────────────┘
```

- Then, press "OK".
- I chose to have autoscan done and selected "OK":

```
┌─────────────SCANNING FOR CD or DVD DRIVE────────────────────┐
│ Make sure the Salix disc is in your CD/DVD drive, and then press ENTER to │
│ begin the scanning process. Or, if you'd rather specify the device name   │
│ manually (experts only), choose that option below.                        │
│  ┌────────────────────────────────────────────────────────────┐          │
│  │   auto    Scan for the CD or DVD drive (recommended)         │          │
│  │   manual  Manually specify CD or DVD by device name          │          │
│  └────────────────────────────────────────────────────────────┘          │
│                                                                           │
│              <  OK  >              <Cancel>                                │
└───────────────────────────────────────────────────────────────┘
```

- The installer begins scanning the system for the selected drive(s):

```
┌──────────────────────────SCANNING─────────────────────────┐
│ Scanning for a CD/DVD drive containing a Salix disc...      │
│                                                             │
└─────────────────────────────────────────────────────────────┘
```

- In my virtual machine, the attached ISO was found:

```
┌────────────────────────CD/DVD DRIVE FOUND──────────────────┐
│ A Salix disc was found in device /dev/sr0.                  │
│                                                             │
└─────────────────────────────────────────────────────────────┘
```

# 6   Select installation mode

- I chose the option "Full — Install Everything":

```
┌─────────────────────SELECT INSTALLATION MODE───────────────────┐
│ Please select the installation mode you prefer from the following: │
│ FULL (default) will install everything. That includes one application per │
│ task, such as an office suite, a multimedia player, a CD/DVD burner etc.  │
│ BASIC will only install a minimal graphical environment and a web browser.│
│ CORE will install only the minimum essentials for your system to start in │
│ console mode (no graphical environment included) and is ideal if you are  │
│ an experienced user and want to fully customize your installation for any │
│ specific purpose.                                                         │
│  ┌────────────────────────────────────────────────────────────┐          │
│  │   FULL    Install everything                                │          │
│  │   BASIC   Install a minimal graphical environment           │          │
│  │   CORE    Install a minimal console system                  │          │
│  └────────────────────────────────────────────────────────────┘          │
│                                                                           │
│                          <  OK  >                                         │
└───────────────────────────────────────────────────────────────┘
```

- Next, press "OK".

- The installation will proceed. Individual screens with the package names / descriptions flash by as they are installed. This typically takes 5–6 minutes.

```
Installing: glibc-2.33-x86_64-5.txz

 glibc (GNU C libraries)

 This package contains the GNU C libraries and header files. You'll
 need this package to compile programs.

 The GNU C library was originally authored by Roland McGrath.

 Homepage: https://www.gnu.org/software/libc/
```

# 7   Configuring your Linux system …

- When package installation finishes, you will see the message "Preparing to configure your Linux system":

```
DONE INSTALLING PACKAGES
 Preparing to configure
 your new Linux system...
```

- The `mkfontdir` and `mkfontscale` commands run:

```
MKFONTDIR AND MKFONTSCALE UPDATE
Please wait while we run mkfontscale and mkfontdir in your font
directories.
```

- The Fontconfig library is updated:

```
FONTCONFIG UPDATE
Please wait while we generate font.cache-1 files with fc-cache.
For best results, fc-cache should be run whenever fonts are
added to the system.
```

# 8    LILO installation

## 8.1    If your computer does not support UEFI

If you are installing in Legacy mode (BIOS / MBR setup), LILO will be used as the boot loader.

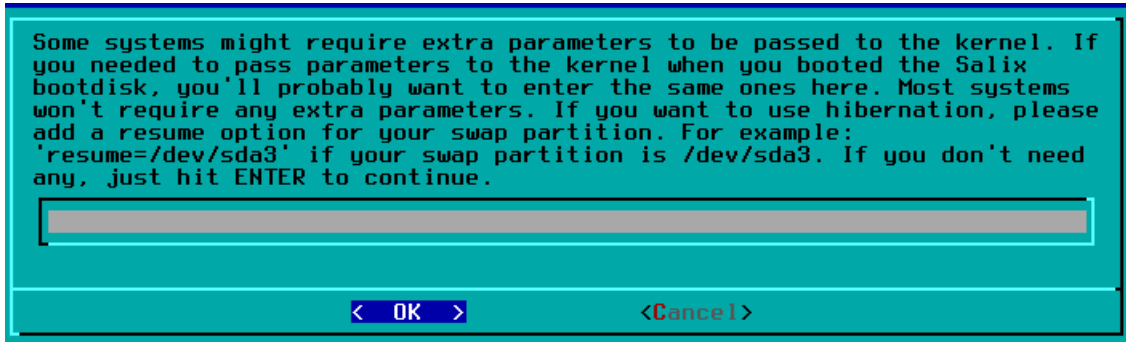If your computer **supports UEFI** and you are installing in UEFI mode, jump to Subsection 8.2

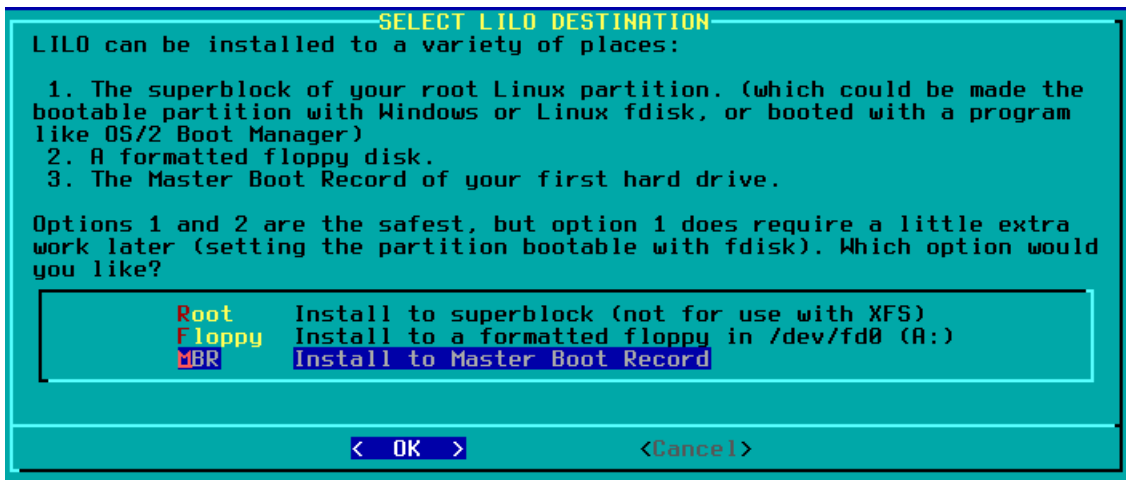- At the "Install LILO" step, I chose "Simple — Try to install LILO automatically":



- Then, press "OK".
- Configure LILO to use frame buffer console?
    - I chose "Standard — Use the standard Linux console (the safe choice)":
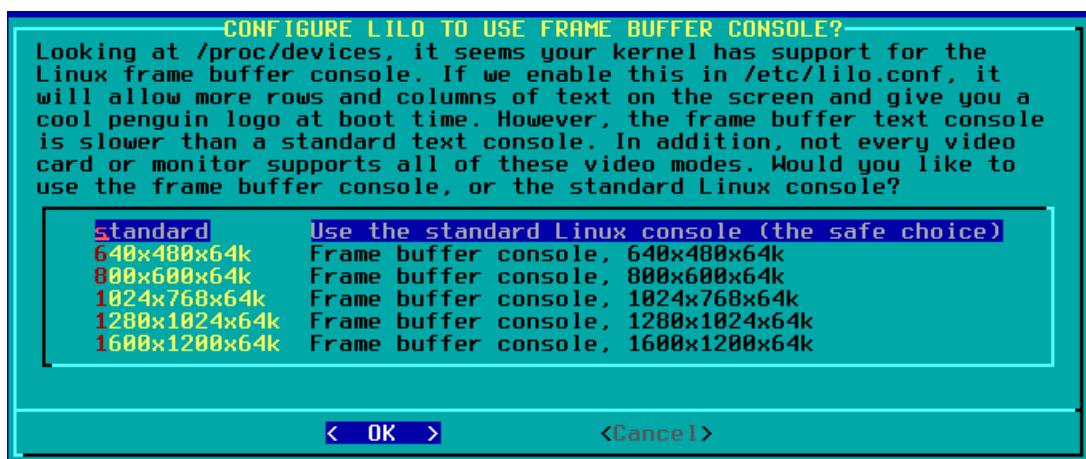
- Then, press "OK".
- I did not need to pass extra parameters to the kernel, so I left this dialog blank:

```
Some systems might require extra parameters to be passed to the kernel. If
you needed to pass parameters to the kernel when you booted the Salix
bootdisk, you'll probably want to enter the same ones here. Most systems
won't require any extra parameters. If you want to use hibernation, please
add a resume option for your swap partition. For example:
'resume=/dev/sda3' if your swap partition is /dev/sda3. If you don't need
any, just hit ENTER to continue.



        < OK >                  <Cancel>
```

- Next, press "OK".
- Select LILO Destination
  - I chose "MBR — Install to Master Boot Record":

```
                    SELECT LILO DESTINATION
LILO can be installed to a variety of places:

  1. The superblock of your root Linux partition. (which could be made the
bootable partition with Windows or Linux fdisk, or booted with a program
like OS/2 Boot Manager)
  2. A formatted floppy disk.
  3. The Master Boot Record of your first hard drive.

Options 1 and 2 are the safest, but option 1 does require a little extra
work later (setting the partition bootable with fdisk). Which option would
you like?

        Root     Install to superblock (not for use with XFS)
        Floppy   Install to a formatted floppy in /dev/fd0 (A:)
        MBR      Install to Master Boot Record



        < OK >                  <Cancel>
```

- Then, press "OK" to continue to the next stage (Section 9).

## 8.2   If your computer supports UEFI

And you are installing in UEFI mode, you will install ELILO instead of LILO.

If your computer does **not** support UEFI and you are installing in Legacy mode (BIOS/MBR setup), return to Subsection 8.1 above.

The installer should detect that your system has UEFI firmware (with the message "UEFI firmware detected").

- Skip installing LILO and proceed to ELILO installation. Answer: "OK" to the prompt:
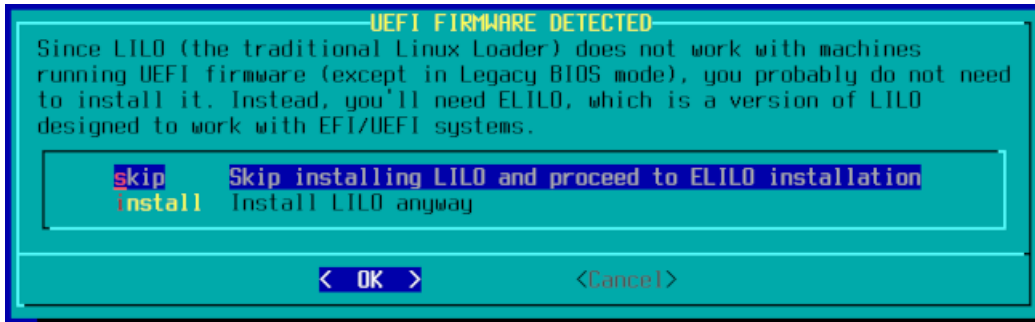


- "Install boot menu entry?"
  - Answer: "install":



Note: The remaining steps below (in Section 9 and following sections) are identical regardless of whether you are doing a UEFI installation or a Legacy / MBR installation.

# 9   Set hardware clock

- Hardware clock set to UTC?
  - I chose "No — Hardware clock is set to local time":
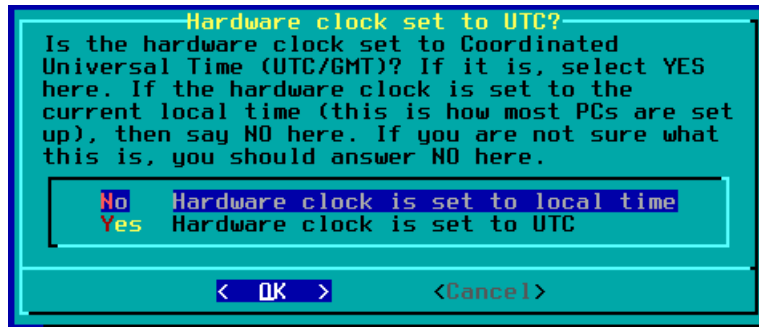
- Then, press "OK".

# 10   Choose time zone

The next step is to configure the time zone.
- I am located in the Central time zone of the United States. For US residents, there are two separate alphabetic listings:
  – A list of some major cities appears under "America ..." for example, "America/New York", "America/Chicago", etc.
  – General time zones are listed under "US ..." such as "US/Central", etc.
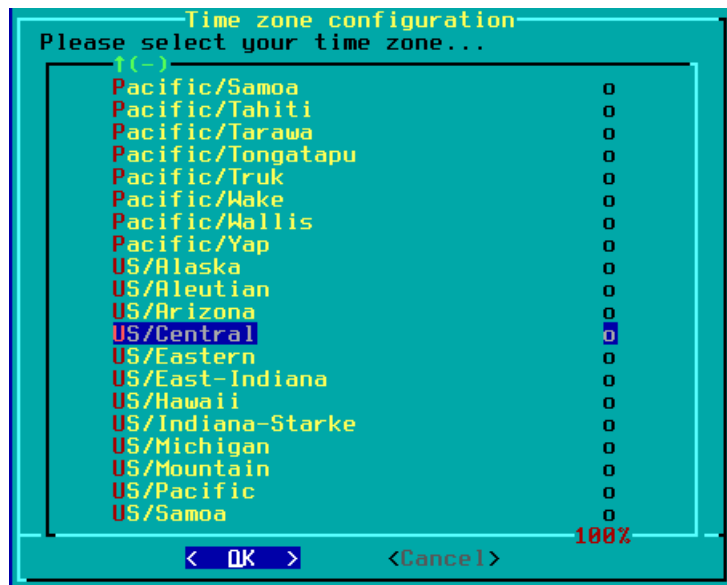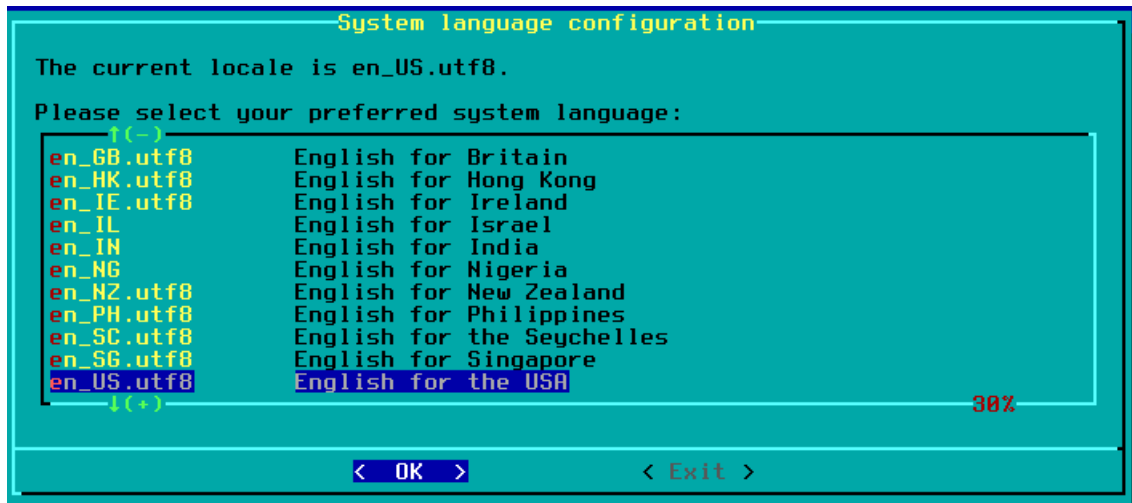


- Then, press "OK".

# 11   System language configuration

This setting determines the language of the installed OS.

- I chose "en_US.utf8 — English for the USA":



- Then, press "OK".

# 12   NumLock configuration

The Num Lock (aka Numeric Lock or Number Lock) key replaces the functions of certain keys on the keyboard with a numeric keypad. It enables and disables the numeric keypad.
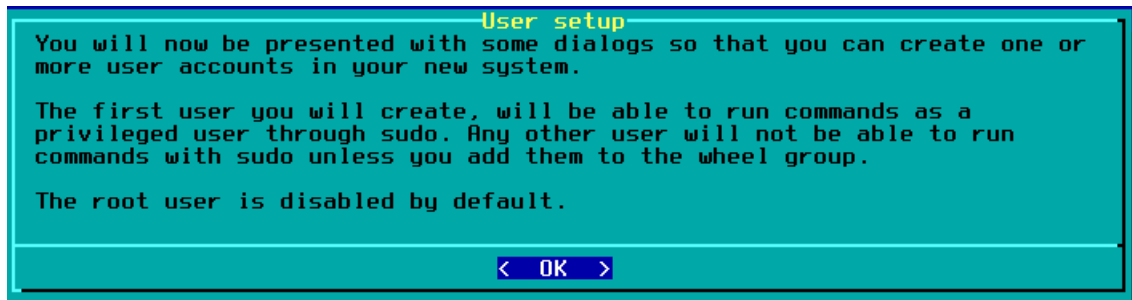
(This often-ignored feature can be helpful in several situations. For example, some people find it easier to type long sequences of numbers using a keypad, such as those found on calculators.)

- I chose "Enabled" (i.e., set to "On" when the computer boots up):
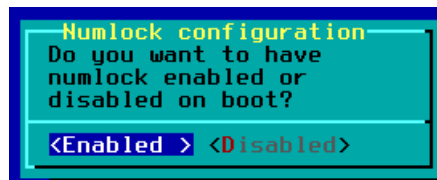
# 13   User setup

The first user created can run sudo commands. Any other user cannot unless you add them to the wheel group. The root user is disabled by default.

```
┌──────────────────────────User setup──────────────────────────┐
│ You will now be presented with some dialogs so that you can create one or │
│ more user accounts in your new system.                                    │
│                                                                           │
│ The first user you will create, will be able to run commands as a         │
│ privileged user through sudo. Any other user will not be able to run      │
│ commands with sudo unless you add them to the wheel group.                │
│                                                                           │
│ The root user is disabled by default.                                     │
│                                                                           │
│                          ‹  OK  ›                                         │
└───────────────────────────────────────────────────────────────┘
```
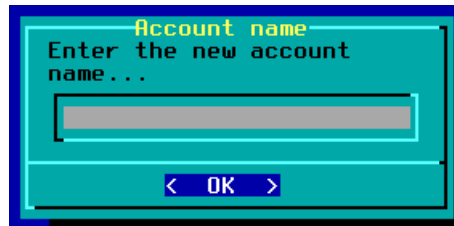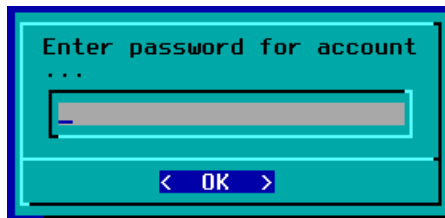
- Then, press "OK".

(If you wish, the root user can be enabled after installation: `https://docs.salixos.org/faq/enable-root/` )

## 13.1   User accounts management

- Choose option number "1 — Create a new account":

```
┌────────────────Users accounts management────────────────┐
│ Please choose an option...                               │
│  ┌─────────────────────────────────────────────────────┐ │
│  │ 1  Create a new account                             │ │
│  │ 2  Create a new account (advanced mode)             │ │
│  │ 3  Modify account properties                        │ │
│  │ 4  Change account password                          │ │
│  │ 5  Delete accounts                                  │ │
│  │ 6  List groups and memberships                      │ │
│  │ 7  Create a new group                               │ │
│  │ 8  Change group name                                │ │
│  │ 9  Delete groups                                    │ │
│  └─────────────────────────────────────────────────────┘ │
│                                                          │
│    ‹    Select     ›      ‹Exit user setup›              │
└──────────────────────────────────────────────────────────┘
```
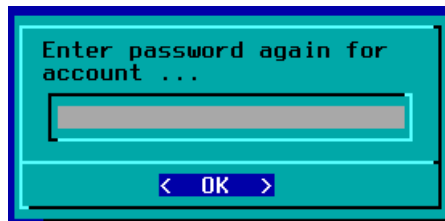
- Then, press "Select".
- Enter new account name: I typed "david":
    - Then, press "OK":

- Enter your password for the newly created account:



- Then, press "OK".
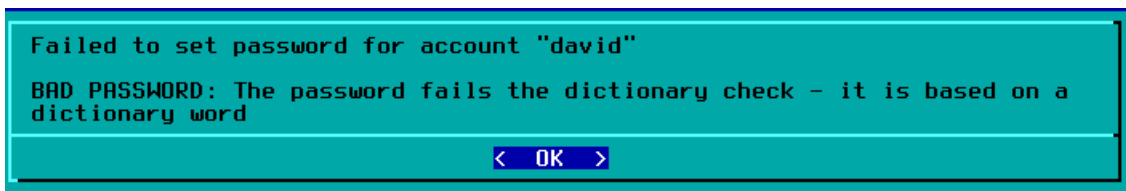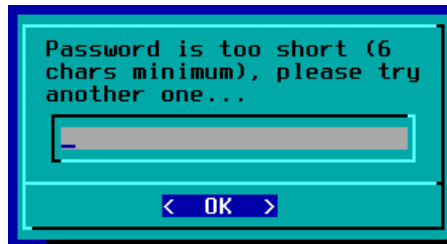- Enter the password again to confirm it:



- Then, press "OK".

> ✏️**Tip:**
> Be aware that password requirements are now enforced by PAM
> (Pluggable Authentication Modules). PAM implements strict pass-
> word rules, including but not limited to length requirement, character
> composition and inactivity timeout.

Your password must have at least six characters and not be a "dictionary"
word. Otherwise you will see the following error messages:

```
┌─────────────────────────┐
│ Password is too short (6│
│ chars minimum), please try│
│ another one...          │
│                         │
│ ┌─────────────────────┐ │
│ │_                    │ │
│ └─────────────────────┘ │
│                         │
│      <   OK   >         │
└─────────────────────────┘
```

```
┌───────────────────────────────────────────────────────────────────┐
│ Failed to set password for account "david"                        │
│                                                                     │
│ BAD PASSWORD: The password fails the dictionary check — it is based on a│
│ dictionary word                                                     │
│                        <   OK   >                                  │
└───────────────────────────────────────────────────────────────────┘
```
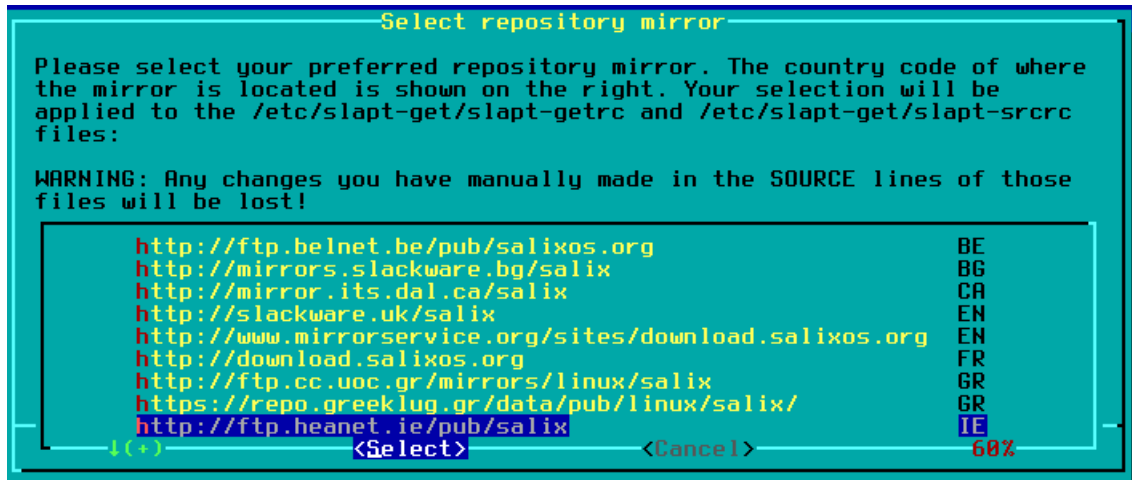
- After you complete this, the installer returns you to the Users Account Management screen:
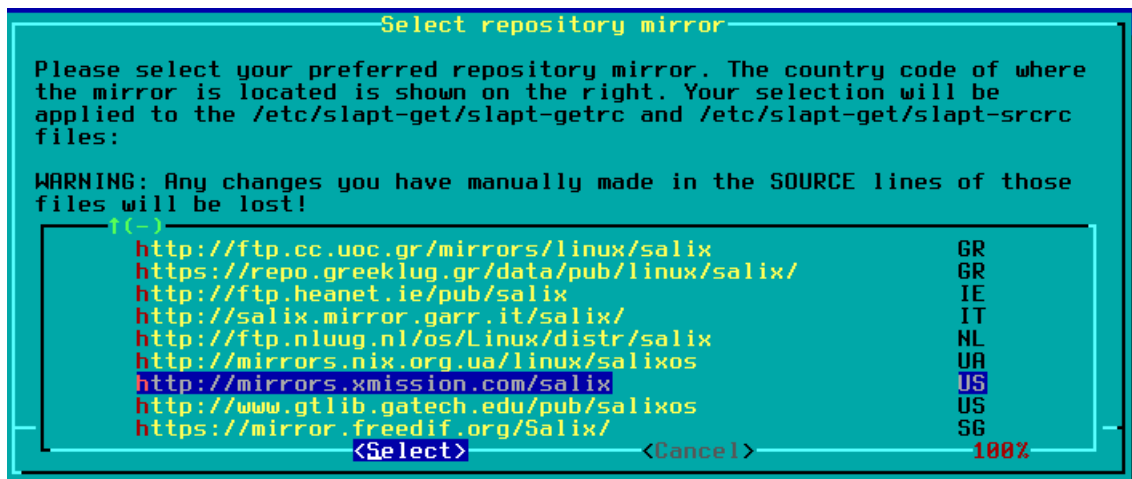- From here, I chose and pressed the "Exit user setup" option:

```
┌─────────────────Users accounts management─────────────────┐
│ Please choose an option...                                │
│  ┌──────────────────────────────────────────────────┐    │
│  │ 1  Create a new account                           │    │
│  │ 2  Create a new account (advanced mode)           │    │
│  │ 3  Modify account properties                      │    │
│  │ 4  Change account password                        │    │
│  │ 5  Delete accounts                                │    │
│  │ 6  List groups and memberships                    │    │
│  │ 7  Create a new group                             │    │
│  │ 8  Change group name                              │    │
│  │ 9  Delete groups                                  │    │
│  │                                                   │    │
│  └──────────────────────────────────────────────────┘    │
│                                                           │
│      <    Select    >        <Exit user setup>            │
└───────────────────────────────────────────────────────────┘
```

# 14   Select repository mirror

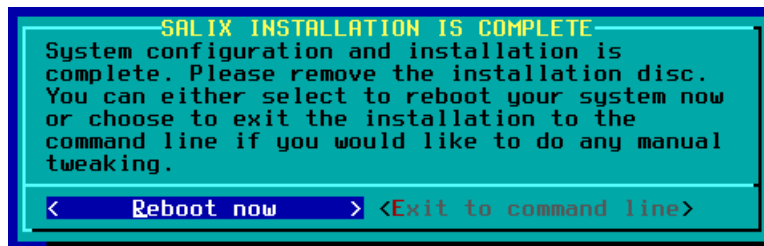You are nearing the end of the installation; in this step, you will select a repository mirror.

```
┌─────────────────────Select repository mirror─────────────────────┐
│ Please select your preferred repository mirror. The country code of where │
│ the mirror is located is shown on the right. Your selection will be │
│ applied to the /etc/slapt-get/slapt-getrc and /etc/slapt-get/slapt-srcrc │
│ files:                                                             │
│                                                                    │
│ WARNING: Any changes you have manually made in the SOURCE lines of those │
│ files will be lost!                                                │
│ ┌──────────────────────────────────────────────────────────────┐ │
│ │    http://ftp.belnet.be/pub/salixos.org              BE       │ │
│ │    http://mirrors.slackware.bg/salix                 BG       │ │
│ │    http://mirror.its.dal.ca/salix                    CA       │ │
│ │    http://slackware.uk/salix                         EN       │ │
│ │    http://www.mirrorservice.org/sites/download.salixos.org  EN │ │
│ │    http://download.salixos.org                       FR       │ │
│ │    http://ftp.cc.uoc.gr/mirrors/linux/salix          GR       │ │
│ │    https://repo.greeklug.gr/data/pub/linux/salix/    GR       │ │
│ │    http://ftp.heanet.ie/pub/salix                    IE       │ │
│ │ ↓(+)───────<Select>──────────<Cancel>──────────60%            │ │
└────────────────────────────────────────────────────────────────────┘
```

- I chose the US mirror at `mirrors.xmission.com` which has been very dependable, based on my experience:

```
┌─────────────────────Select repository mirror─────────────────────┐
│ Please select your preferred repository mirror. The country code of where │
│ the mirror is located is shown on the right. Your selection will be │
│ applied to the /etc/slapt-get/slapt-getrc and /etc/slapt-get/slapt-srcrc │
│ files:                                                             │
│                                                                    │
│ WARNING: Any changes you have manually made in the SOURCE lines of those │
│ files will be lost!                                                │
│ ┌─↑(−)─────────────────────────────────────────────────────────┐ │
│ │    http://ftp.cc.uoc.gr/mirrors/linux/salix          GR       │ │
│ │    https://repo.greeklug.gr/data/pub/linux/salix/    GR       │ │
│ │    http://ftp.heanet.ie/pub/salix                    IE       │ │
│ │    http://salix.mirror.garr.it/salix/                IT       │ │
│ │    http://ftp.nluug.nl/os/Linux/distr/salix          NL       │ │
│ │    http://mirrors.nix.org.ua/linux/salixos           UA       │ │
│ │    http://mirrors.xmission.com/salix                 US       │ │
│ │    http://www.gtlib.gatech.edu/pub/salixos           US       │ │
│ │    https://mirror.freedif.org/Salix/                 SG       │ │
│ │            ───────<Select>──────────<Cancel>──────────100%    │ │
└────────────────────────────────────────────────────────────────────┘
```

- Then, press "Select".

# 15   Installation complete

Salix installation is now complete:

- Choose "Reboot now".

Note: The installer does **not** prompt you to safely remove the USB stick. You must quickly remove the stick before the PC reboots. (Otherwise it will reboot back into the installer.)

Congratulations! You have successfully installed Salix OS.

After rebooting, you should briefly see the Salix-themed LILO splash screen (apologies for the visual artifacts due to the virtual machine):
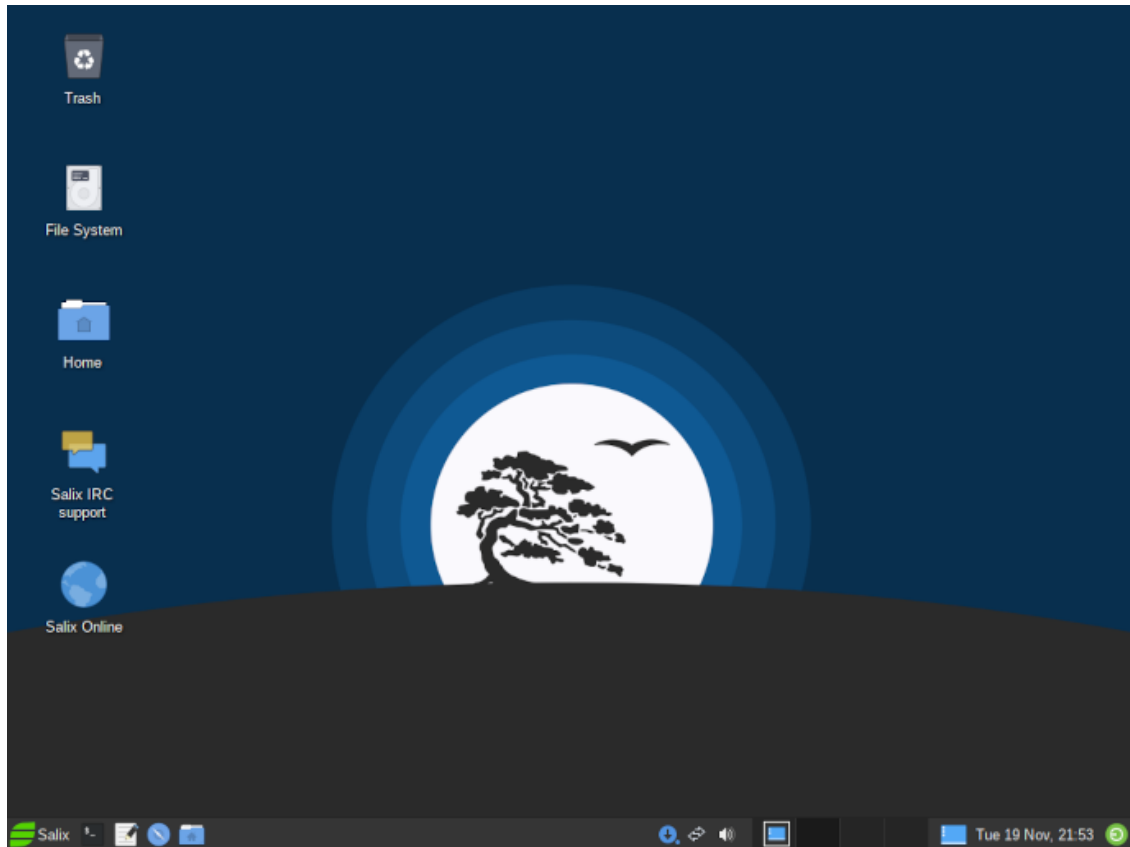


Next, you will be taken to the GDM login manager:
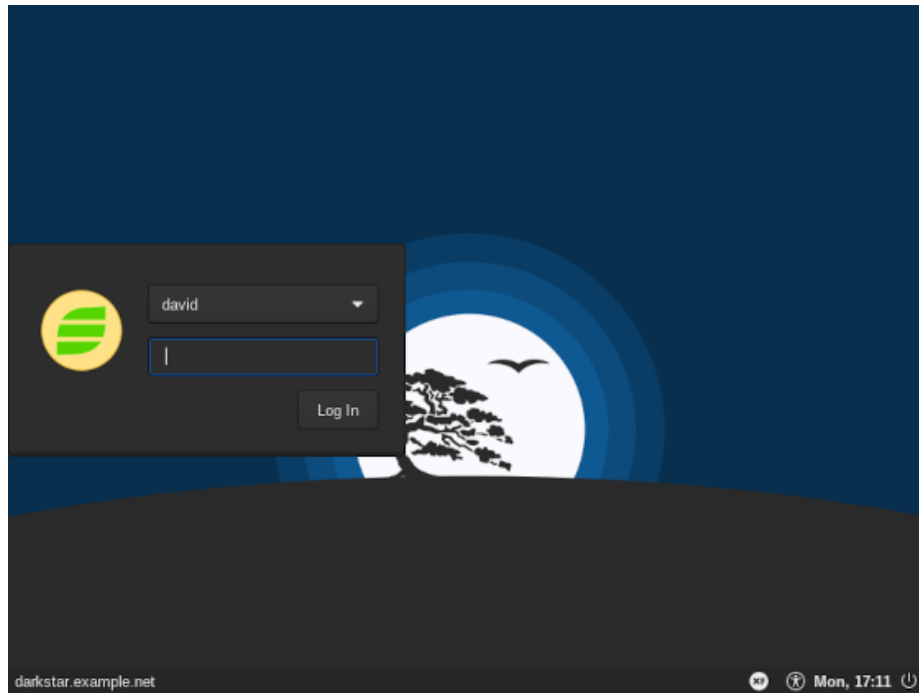
Finally, after logging in, you will see the default Salix 15.0 Xfce desktop:

The wallpaper is named "salix_day" and the icon set is Qogir with a light theme (although a dark theme is also available).
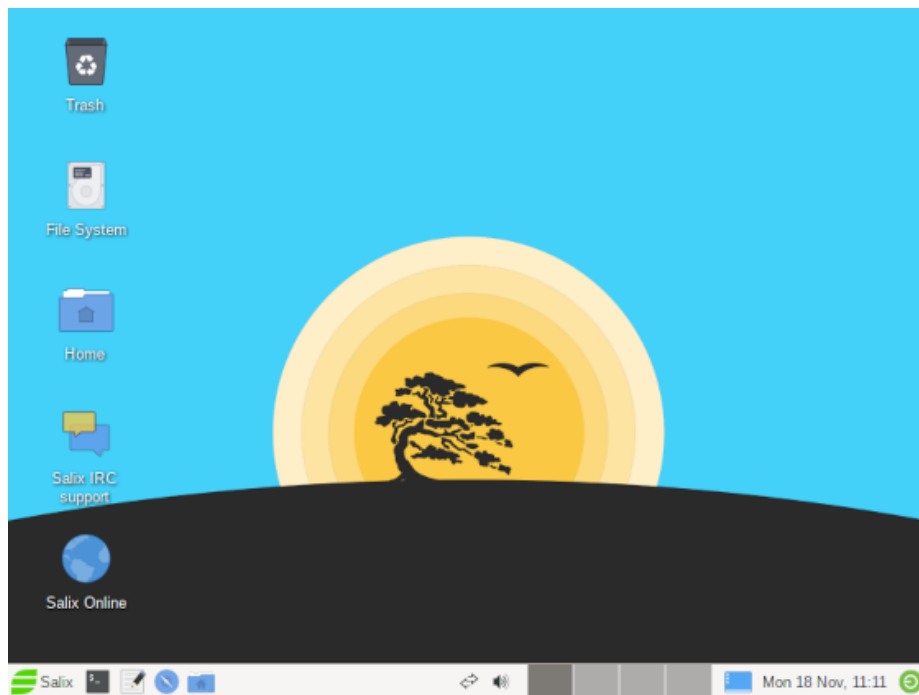
Below is a screenshot of the dark theme with the Qogir-dark icon set and the "`salix_night`" wallpaper:



# 16 What if you want GRUB instead of LILO?

Despite several attempts in virtual machines, I failed to install GRUB using this ISO (both with MBR and EFI). Although I am by no means an expert, I suspect the reason is that GRUB is not included on the Standard installer. (It is not listed in the `PACKAGELIST` file.)

If you wish to use GRUB as your boot loader, the easiest solution is to download the SalixLive64 Xfce ISO — which uses a completely different installer (SLI, the **S**alix **L**ive **I**nstaller) — but comes with a GRUB install option.

If you are interested in trying to install GRUB via the Standard (non-live) ISO, you can peruse two threads in the Salix Forum:

`https://forum.salixos.org/viewtopic.php?t=7089`
`pnbalaji`. "[UPDATED - 09/27/2016] Install Grub2 in Salix." 27 Sept. 2016.

https://forum.salixos.org/viewtopic.php?t=2559

globetrotterdk. "How to Install Salix with GRUB2 instead of LILO." 3 Aug. 2011, updated in 2012.

# 17   Additional resources

## 17.1   Installation demos

If you would prefer to watch video demonstrations of the Salix installer, there are two in-depth ones available on YouTube:

https://www.youtube.com/watch?v=chO1IJcsMJU

OldTechBloke. "Salix OS [15.0]: A Powerful and Simple Slackware Distro." *YouTube*, 4 Oct. 2022. (39 min., 20 sec.)

OTB runs through a UEFI installation (in a virtual machine) from 4:38 until 12:14.

(*Note*: He bypasses partitioning with cgdisk by typing "# cfdisk" at the beginning of the installation, then uses cfdisk to partition the virtual disk. The cfdisk segment runs from 5:27 until 6:36.)

OldTechBloke (Steve Anelay) was kind, knowledgeable and produced excellent Slackware-related content. Sadly, he passed away from cancer on 24 Sept. 2023. R.I.P., OTB . . . you are missed.

https://www.youtube.com/watch?v=4DF4IMr96No

DistroTube. "Installation and First Look at Salix OS [15.0]." *YouTube*, 19 Sept. 2022. (27 min., 56 sec.)

Derek Taylor (dt) runs through a Legacy mode installation [BIOS/MBR] (in a virtual machine) from 0:36 until 11:55.

He uses cfdisk for the disk partitioning; that segment runs from 2:37 until 3:58.

## 17.2   On cfdisk

https://guide.salixos.org/225Partitionmanagementwithcfdisk.html

The web version of the Salix Startup Guide has a section on cfdisk.

https://tinyurl.com/mr48zzbh

Sharma, Deepesh. "How to Create, Resize and Delete Linux Partitions with cfdisk." *MakeUseOf.com*, 22 Feb. 2021.

## 17.3   On cgdisk

<https://www.rodsbooks.com/gdisk/cgdisk-walkthrough.html>
Smith, Roderick W. "A cgdisk Walkthrough." *rodbooks.com*, 18 Apr. 2022.

cgdisk is a component of the suite of text-mode partitioning tools (GPT fdisk) created by Rod Smith. It is essentially just cfdisk with support for GPT (**G**lobally Unique Identifier **P**artition **T**able).

## 17.4   Guidelines on swap partition size

<https://itsfoss.com/swap-size/>
Prakash, Abhishek. "How Much Swap Should You Use in Linux?" *It's FOSS*, 1 Jun. 2023.

Good luck and Enjoy using Salix!