Elastix Installation

Version 1.3.2

PaloSanto Solutions

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Introduction

This manual corresponds to the Installation of the Elastix distro version 1.3.2

Elastix is distributed as an ISO file that can be burned to a CD from any CD burning software.

This version can be downloaded from http://www.elastix.org or directly from the download site for the project: http://sourceforge.net/projects/elastix/

1.- Installing from CD

Once you've downloaded the ISO of the distro be sure to burn it properly to a CD.

Turn on your server and insert the CD. Make sure that your server boots from the optical drive (CDROM), otherwise you must enable this option in the BIOS of your machine. If you burned correctly your CD you should get the following screen:

Picture 1.1 Initial installation screen

> **Note:** *The Elastix Installation CD will format the hard drive during the installation process. This will delete all the information in the system, please make sure you don't have any important information stored in the hard drive.*

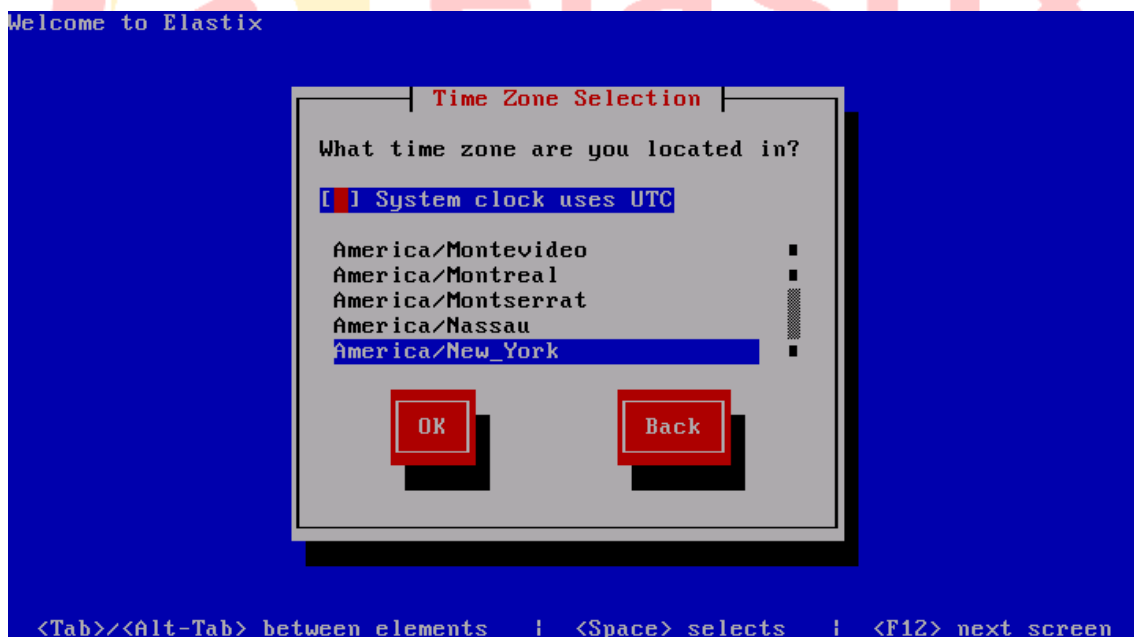If you are an expert user write the command: **advanced**

Otherwise you can press ENTER or wait till the CD begins the installation automatically.

You have to choose the keyboard layout according to your language. If your keyboard language is English select the option: "en".

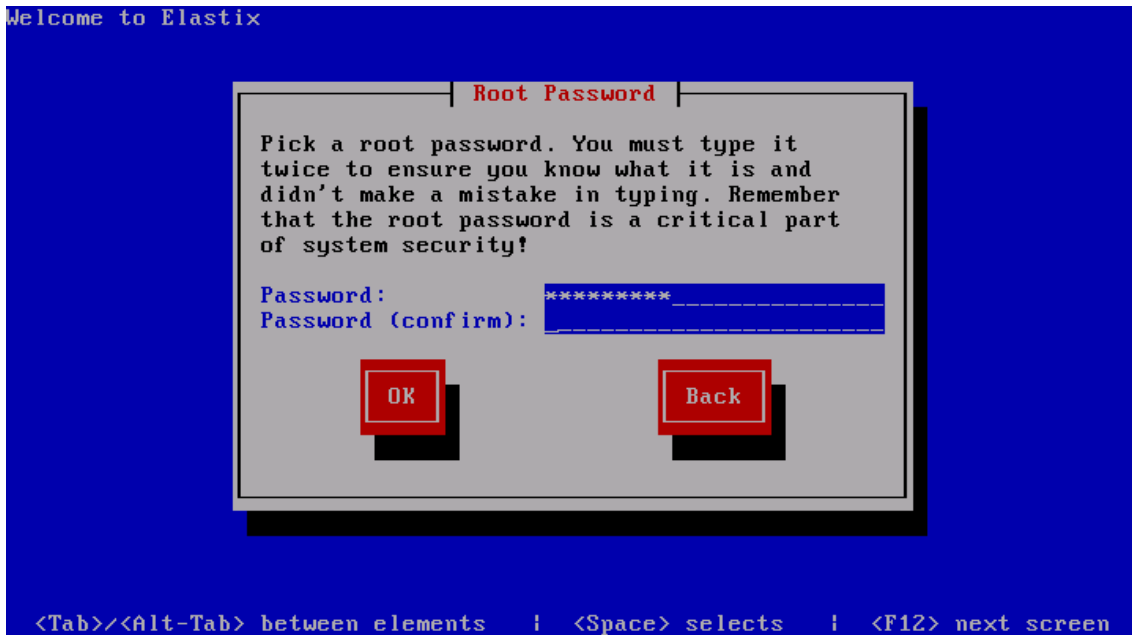Picture 1.2 choosing the keyboard layout

Select your current location.

Picture 1.3 Selection of the current location

Write the password that will be used by the Elastix administrator.
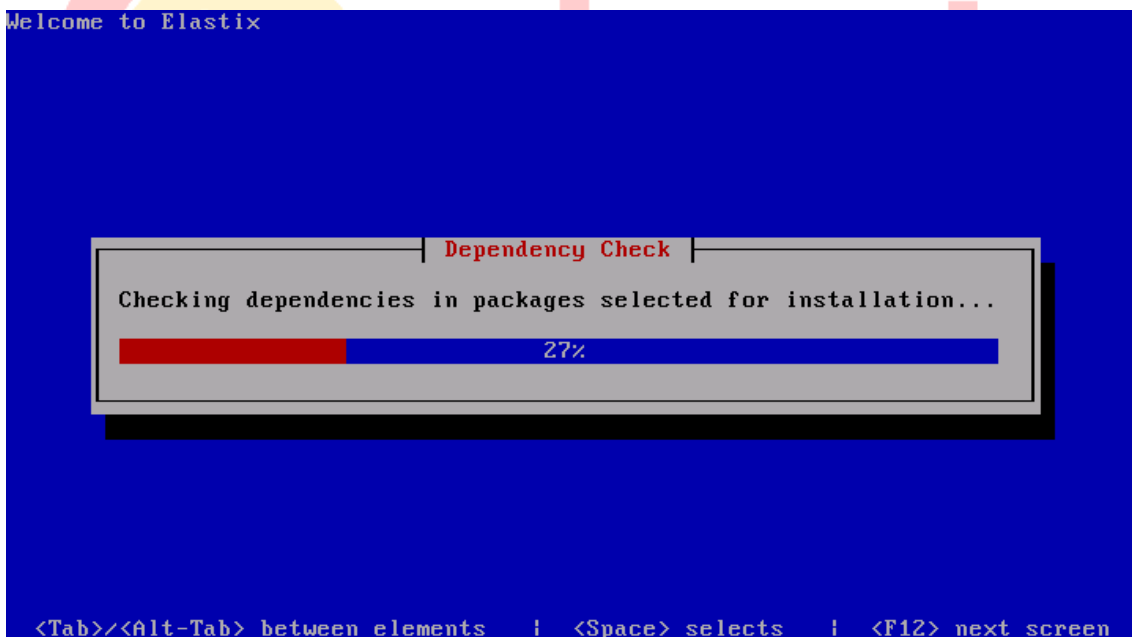
Note: Remember this is a critical issue for the system security.

Picture 1.4 Choosing root password
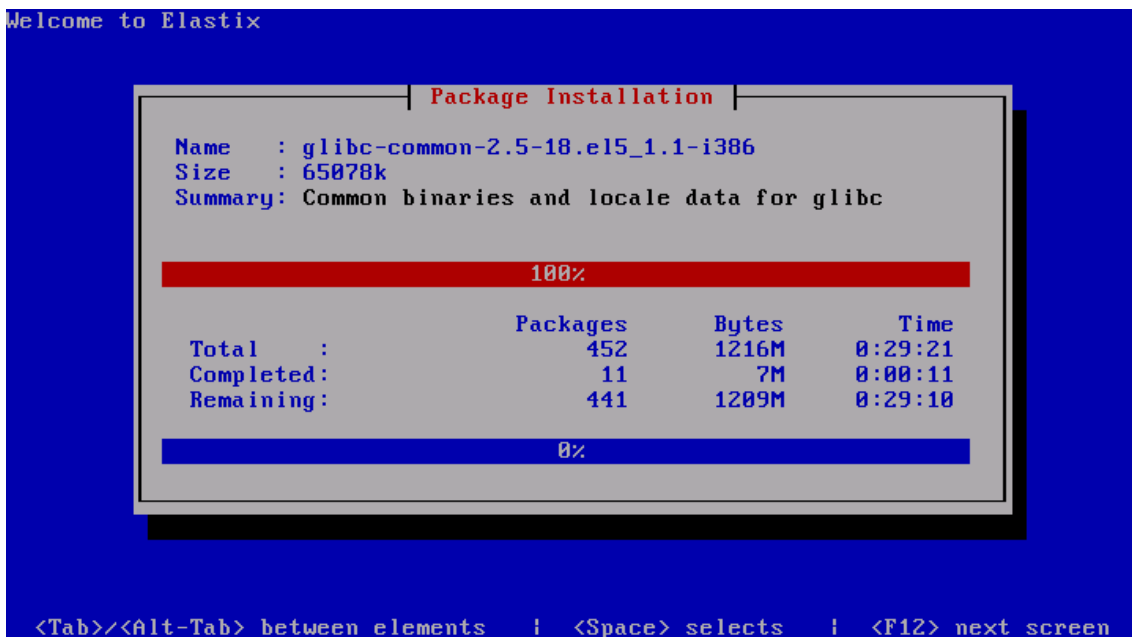
Note: *The next procedures will be executed by the installation CD automatically.*

First, the installer will search the necessary dependencies for the installation.

Picture 1.5 The installer searches dependencies between packets.

After this, the installation begins; you'll see the next screen:

Picture 1.6 Packet installation process

Screen of the installation process before ending.
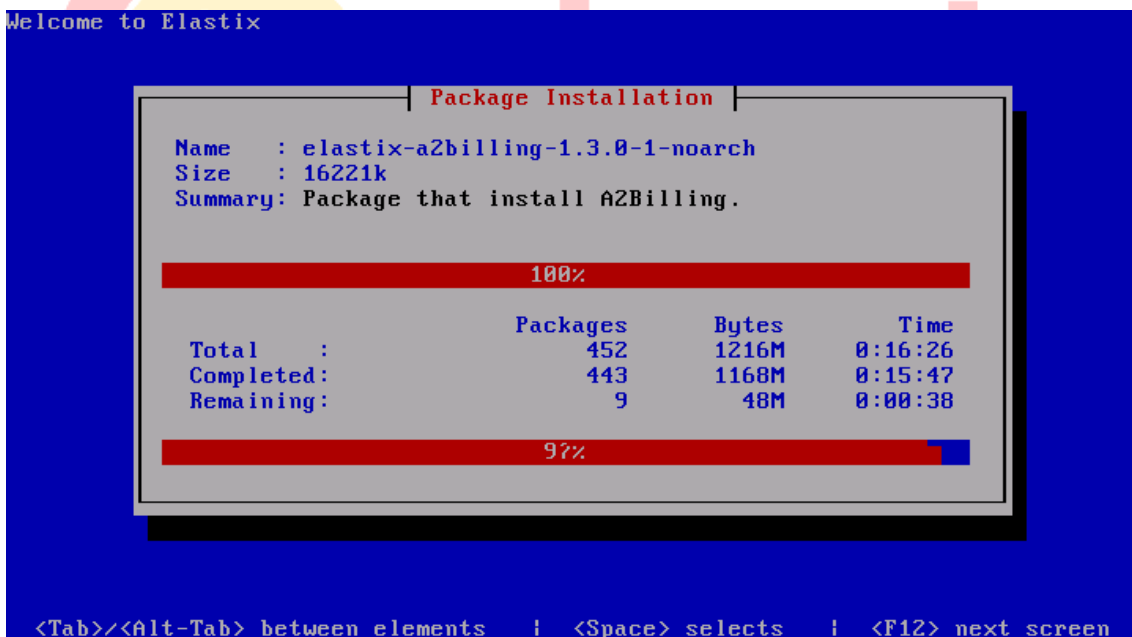
Picture 1.7 Ending of packet installation process.

Once the installation is complete, the system proceeds to reboot.

Note: You must remove the CD and is recommended to modify the BIOS to boot from the hard drive as the first option.

After the system restart the following kernel will boot automatically: `Elastix-base (2.6.18-53.1.19.e15)`

```
        GNU GRUB  version 0.97  (638K lower / 255936K upper memory)

   ┌──────────────────────────────────────────────────────────────────────┐
   │ Elastix (2.6.18-53.1.19.el5xen)                                        │
   │ Elastix-base (2.6.18-53.1.19.el5)                                    █ │
   │                                                                        │
   │                                                                        │
   │                                                                        │
   │                                                                        │
   │                                                                        │
   │                                                                        │
   │                                                                        │
   └──────────────────────────────────────────────────────────────────────┘
        Use the ↑ and ↓ keys to select which entry is highlighted.
        Press enter to boot the selected OS, 'e' to edit the
        commands before booting, 'a' to modify the kernel arguments
        before booting, or 'c' for a command-line.

     The highlighted entry will be booted automatically in 4 seconds.
```
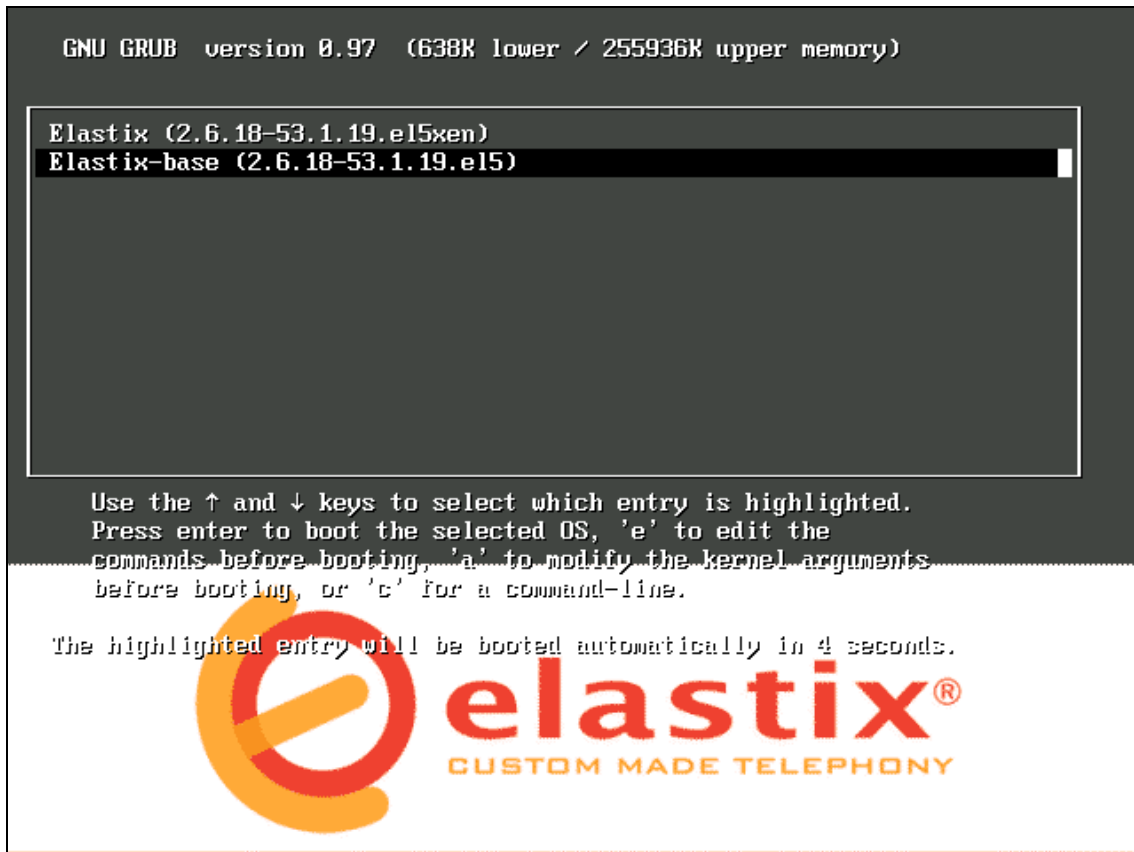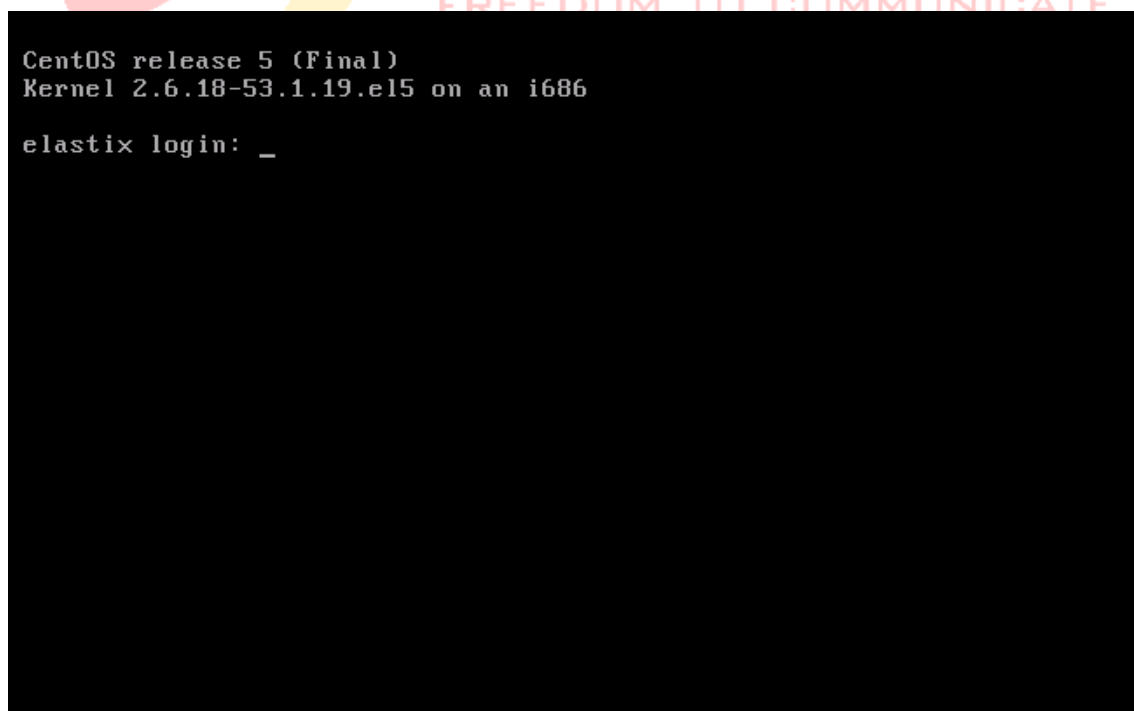
Picture 1.8 GRUB screen for boot image selection

Log in as the root user with the password set at the moment of installation.


```
CentOS release 5 (Final)
Kernel 2.6.18-53.1.19.el5 on an i686

elastix login: _
```

Picture 1.9 Authentication screen to enter Elastix from the console

2.- Installing from a flash memory device

This procedure is aimed to users whit a flash memory distributed with an ELX series Appliance.

The Flash memory device should be placed on one of the USB ports of the Elastix server. Once you place the flash memory, start the server. Make sure that your server boots from a USB drive (Flash memory), otherwise you must enable this option in the BIOS of your machine. If everything is correct you should get the following screen.


Picture 2.1 Initial installation screen

> *Note: The flash memory device will format the hard drive during the installation process. This will delete all the information in the system, please make sure you don't have any important information stored in the hard drive.*

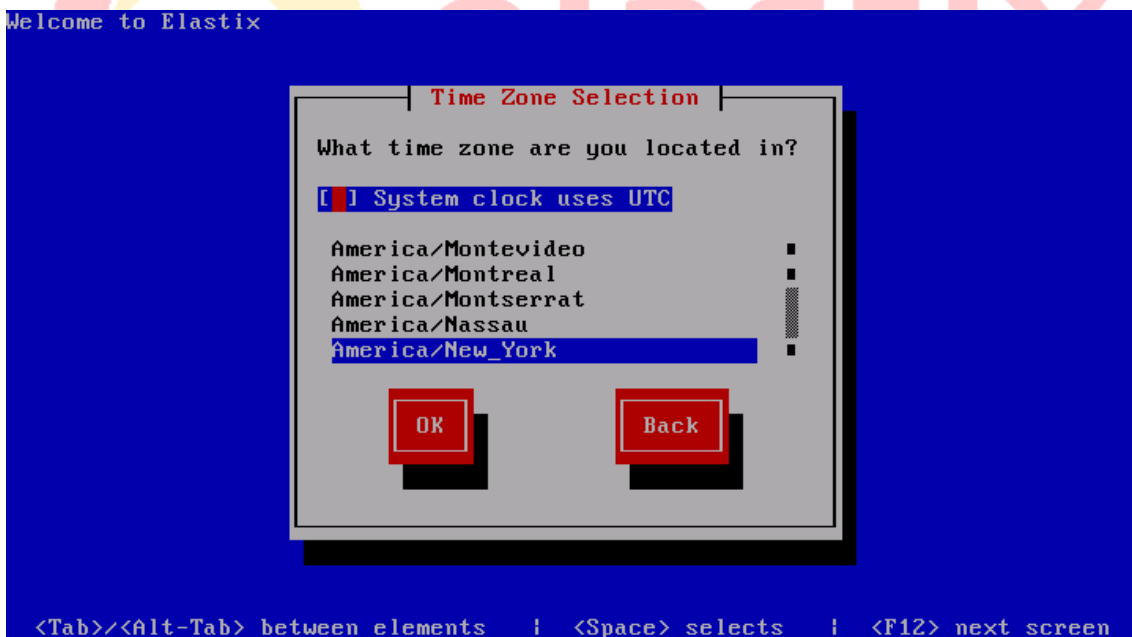If you are an expert user write the command: **advanced**

Otherwise you can press ENTER or wait till the flash memory device begins the installation automatically.

You have to choose the keyboard layout according to your language. If your keyboard language is English select the option: "en".
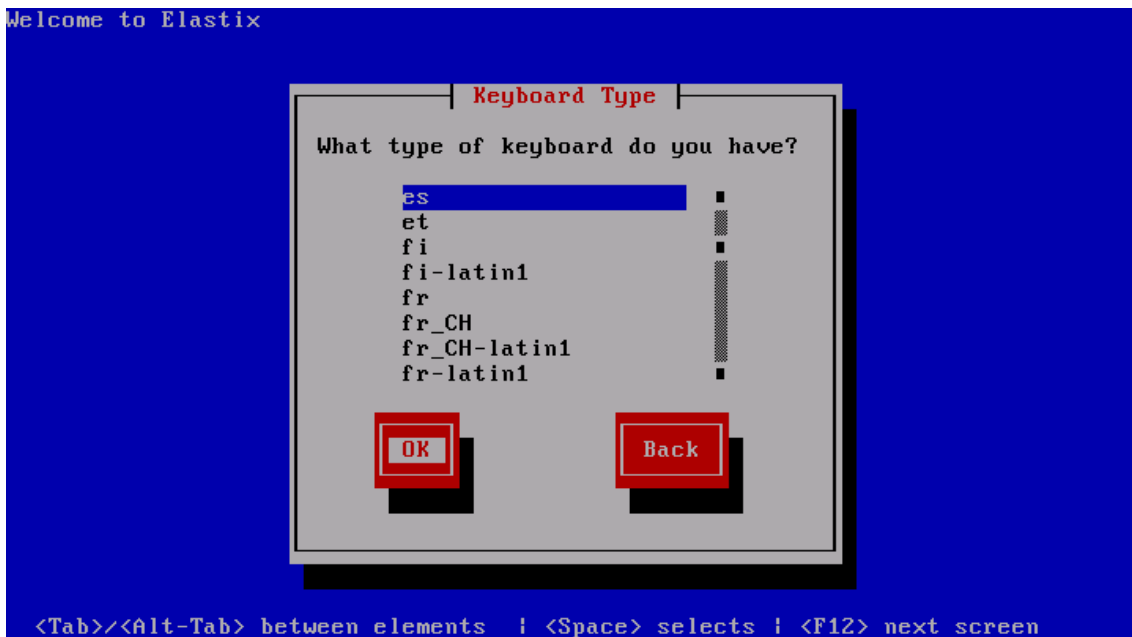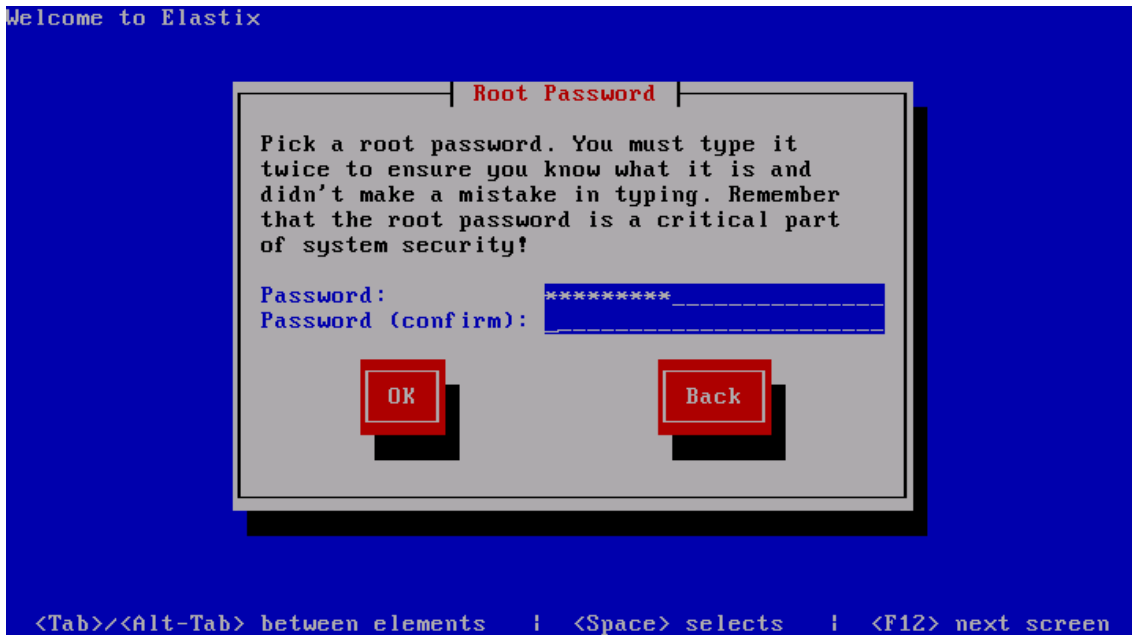

Picture 2.2 choosing the keyboard layout

Select your current location.

Picture 2.3 Selection of the current location

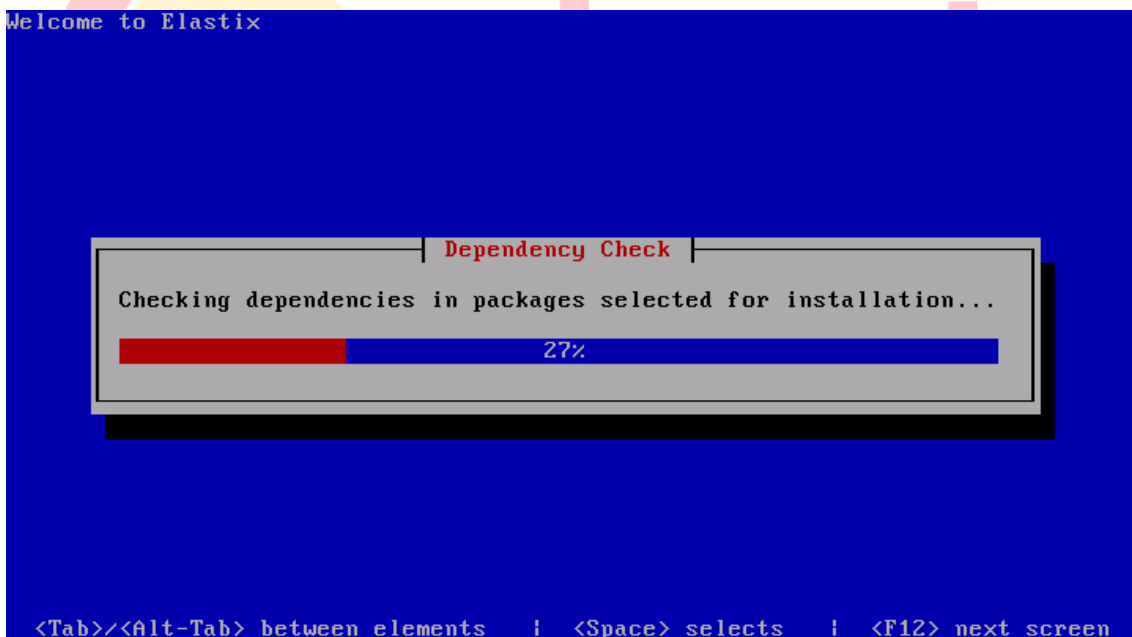Write the password that will be used by the Elastix administrator.

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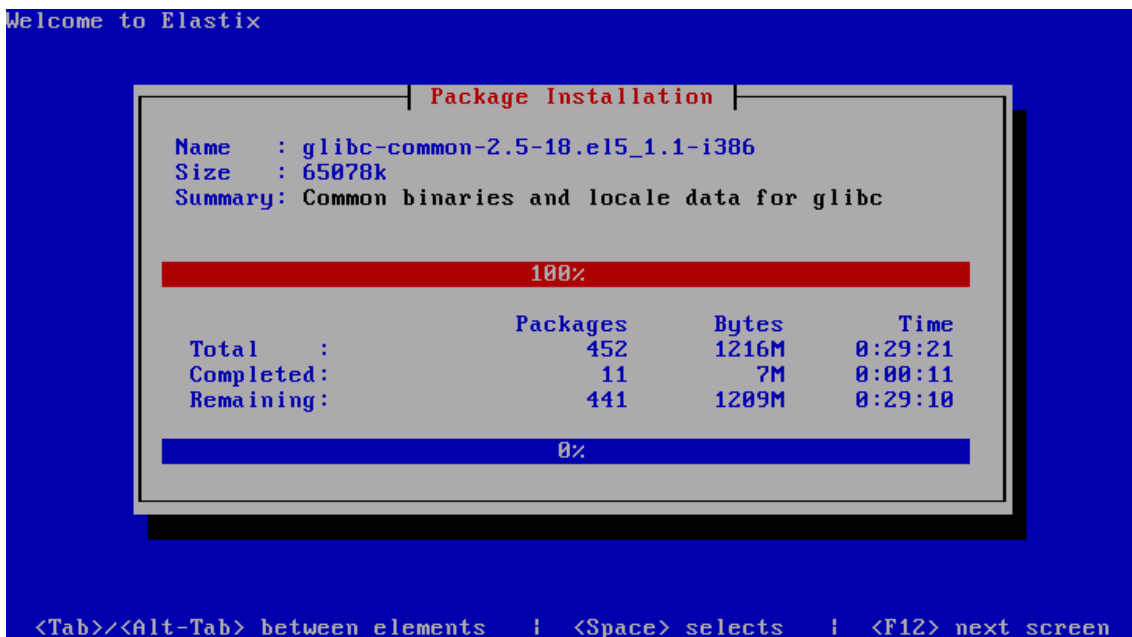
Picture 2.4 Choosing root password

Note: The next procedures will be executed by the installation device automatically.

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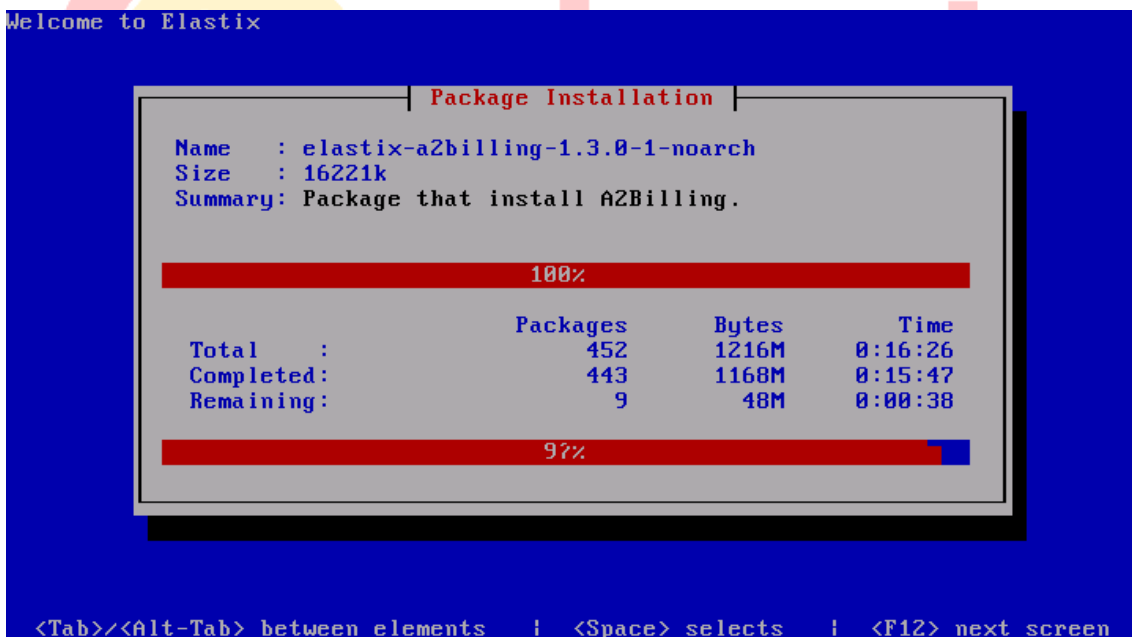

Picture 2.5 The installer searches dependencies between packets.

After this, the installation begins; you'll see the next screen:

Picture 2.6 Packet installation process

Screen of the installation process before ending.

Picture 2.7 Ending of packet installation process.

Once the installation is complete, the system proceeds to reboot.

Note: You must remove the flash memory device and is recommended to modify the BIOS to boot from the hard drive as the first option.

After the system restart the following kernel will boot automatically: `Elastix-base (2.6.18-53.1.19.el5)`
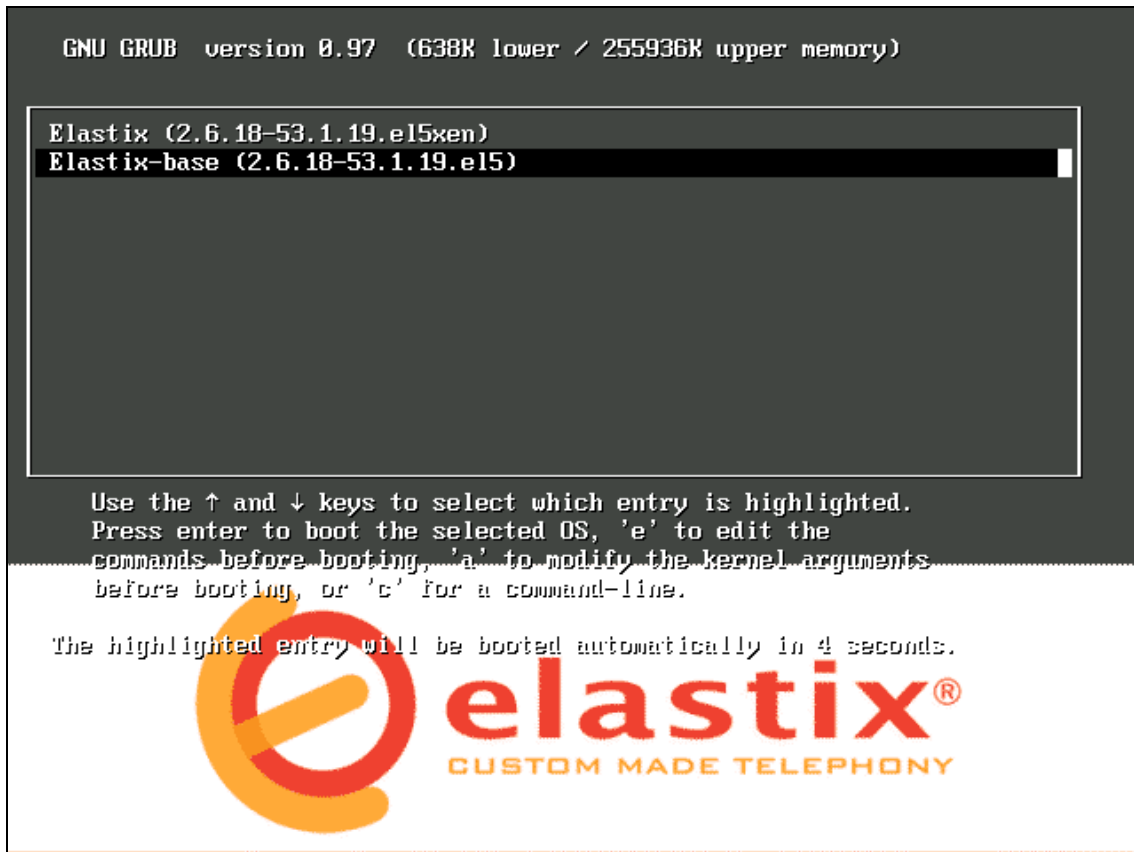
Picture 2.8 GRUB screen for boot image selection

Log in as the root user with the password set at the moment of installation.
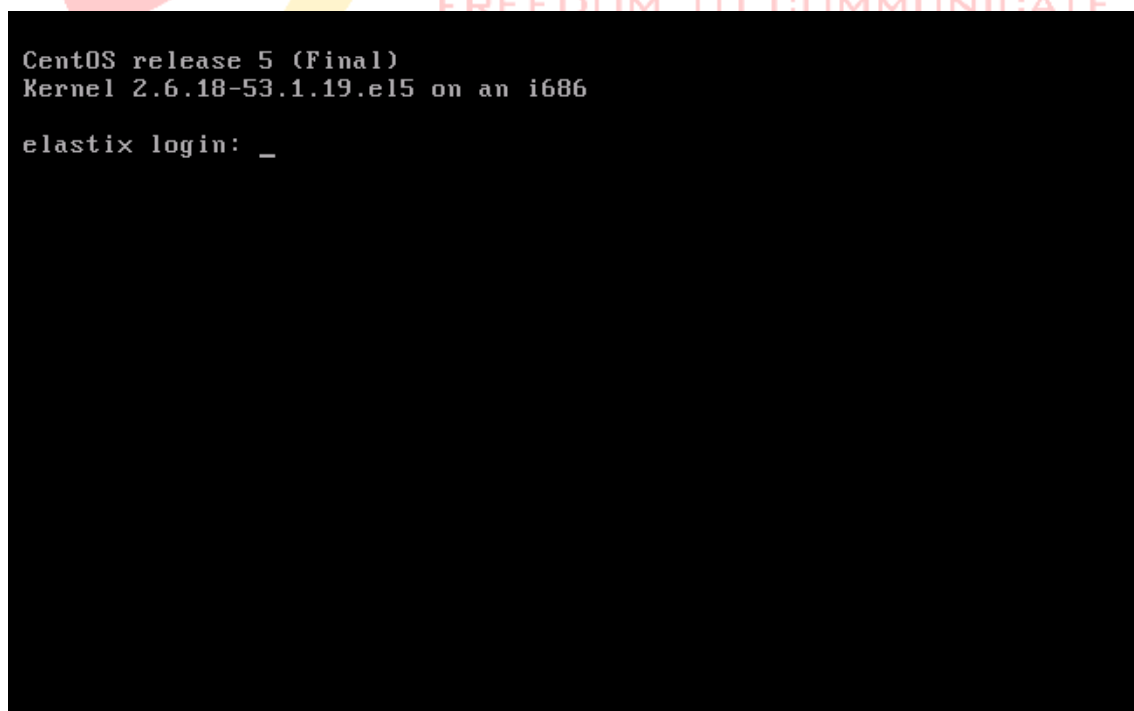
Picture 2.9 Authentication screen to enter Elastix from the console

3.- Installing Elastix over a pre-installed CentOS or Red Hat

Even though Elastix CD is the recommended way to install the distro there are some scenarios where is desirable to start off on a pre-installed operating system. Some reasons to do this could be the following:

- Support on 64 bits and obviously more than 4 GB de RAM
- To gain Red Hat Support

In order to fulfill this assignment a script called CentOS2Elastix has been developed. This script basically turns CentOS to Elastix. CentOS is a popular distribution of Elastix based on another popular distribution, "Red Hat". By all this, at least on theory, this script should work well on Red Hat too.

However, not everything it's so easy. Just a few versions of CentOS are supported. The last version of CentOS2Elastix works using the kernel 2.6.18-53. It is necessary to keep this kernel installed because some Elastix drivers are dependent of it. For example, Zaptel.

CentOS2Elastix can be downloaded from elastix.org. However it's only an ISO image and you have to "mount" it before being able to access to the content.

```
# mkdir /testFolder
# mount -o loop ElastiXCorE-xxxx.iso /testFolder
# cd /testFolder
# ./install
```

In the last example we have to replace xxxx with script version we downloaded.

> **Note:** for more information there's a how-to on Elastix.org wiki

4.- Installing over a *soft* RAID

The possibility to configure disc arrangement by software (Software RAID) is a very useful configuration Elastix has inherit from Linux. This allows us to add a minimum level of redundancy at a low cost.

Even though, there are 3 kind of RAID supported (0, 1 y 5), is a general practice the use of RAID 1 or "mirror"; this allows us to duplicate the information in partitions. It's important to say that it's not really necessary to add all the partitions to the arrangement; however, it's recommendable to make a mirror of every partition if you have 2 hard drives.

A common scheme for partitioning consists on having a 100Mb partition for "/boot", 2Gb for swap memory and the rest of the space for the root "/". If you are following this scheme with a type 1 array, you will need to create 3 partitions on each hard drive, in such a way that you will end up with 6 RAID type partitions

Software RAID configuration is setup during Elastix installation process using advanced mode. Basically, an additional step related with the hard drive partition will show. This step is divided in additional steps: the creation of the RAID partitions, and the creation of RAID devices to group these partitions.

To enter in advanced mode is necessary to write the command advanced in the initial installation screen.
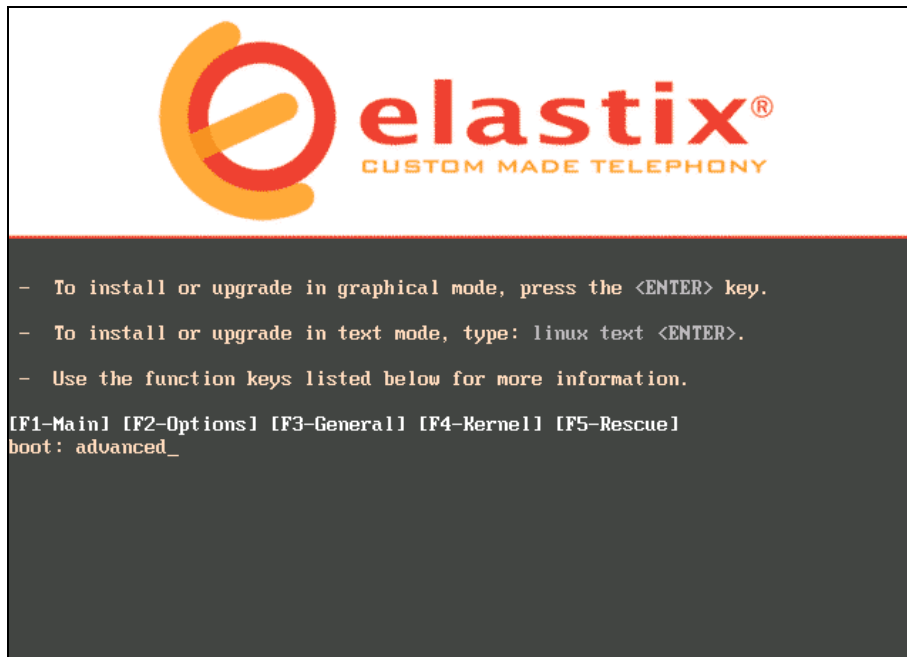

Picture 4.1 Initial installation screen: choosing "advanced" option

Like the normal installation process, the advanced installation requires the setup of the keyboard layout according to the keyboard language. Once you have selected the keyboard layout the partition type screen will appear.
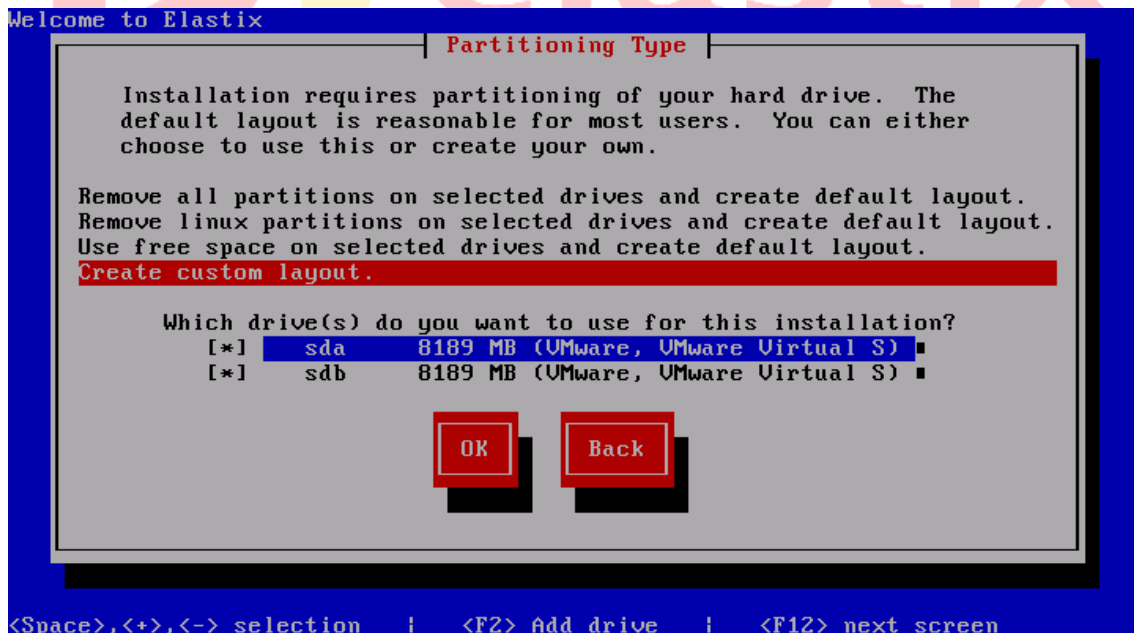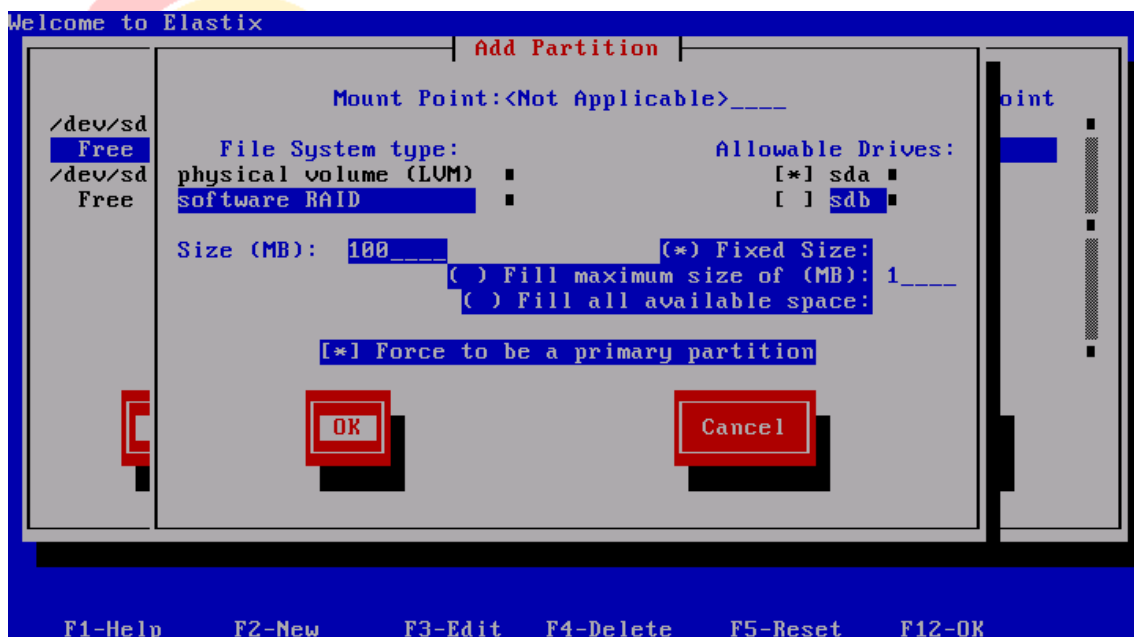

Picture 4.2 Partition Options

To begin with the partition we have to select "*Create custom layout*", the hard drives must be listed and selected too. The partition screen will show the list of partitions once they're created.
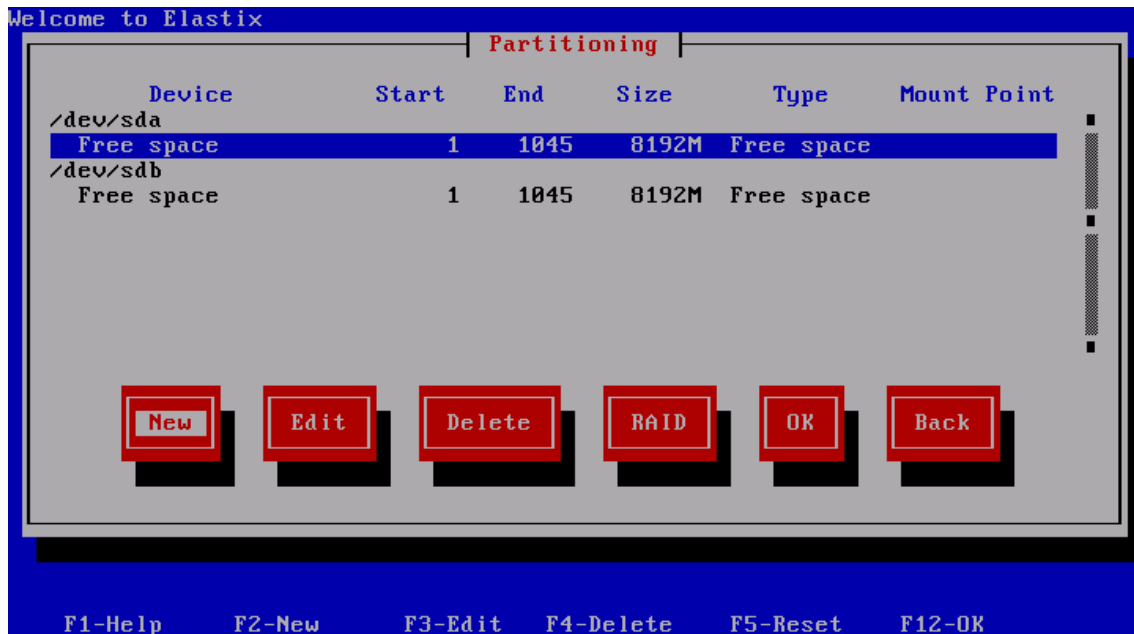
Picture 4.3 Partition tool showing hard drives without partition

The first step will be to create all RAID partitions choosing the option "*New*".

Picture 4.4 Creating a partition

In system file type it's necessary to choose "*software R*", additionally it's necessary to specify the partition size, the hard drive for the partition, and if it is a primary partition. After selecting "OK" the new partition will show on the list as shown below:
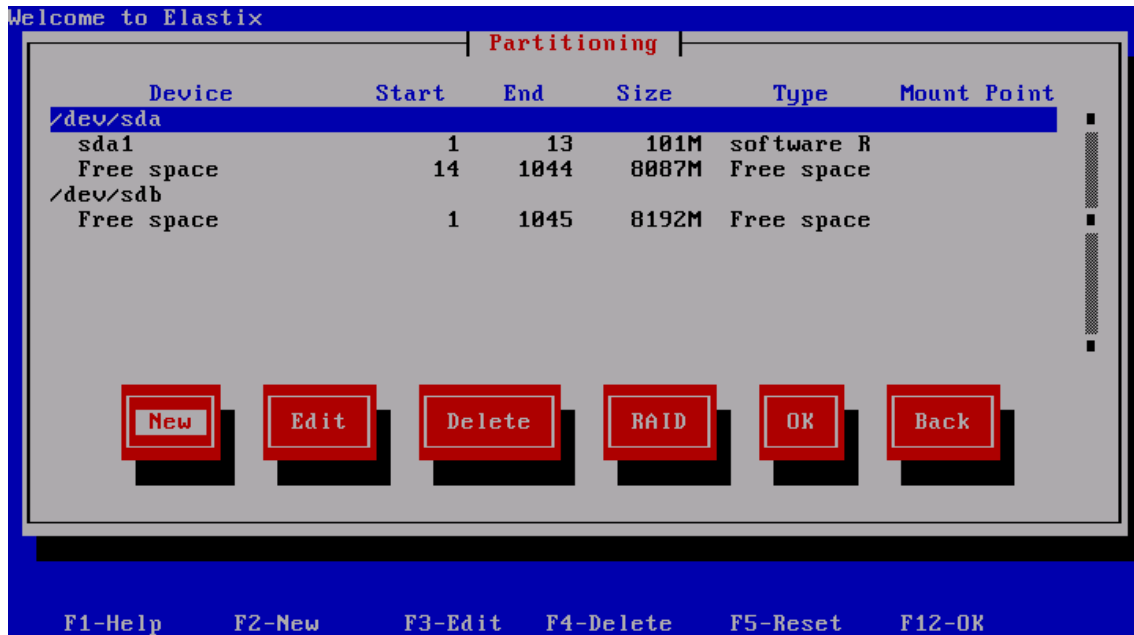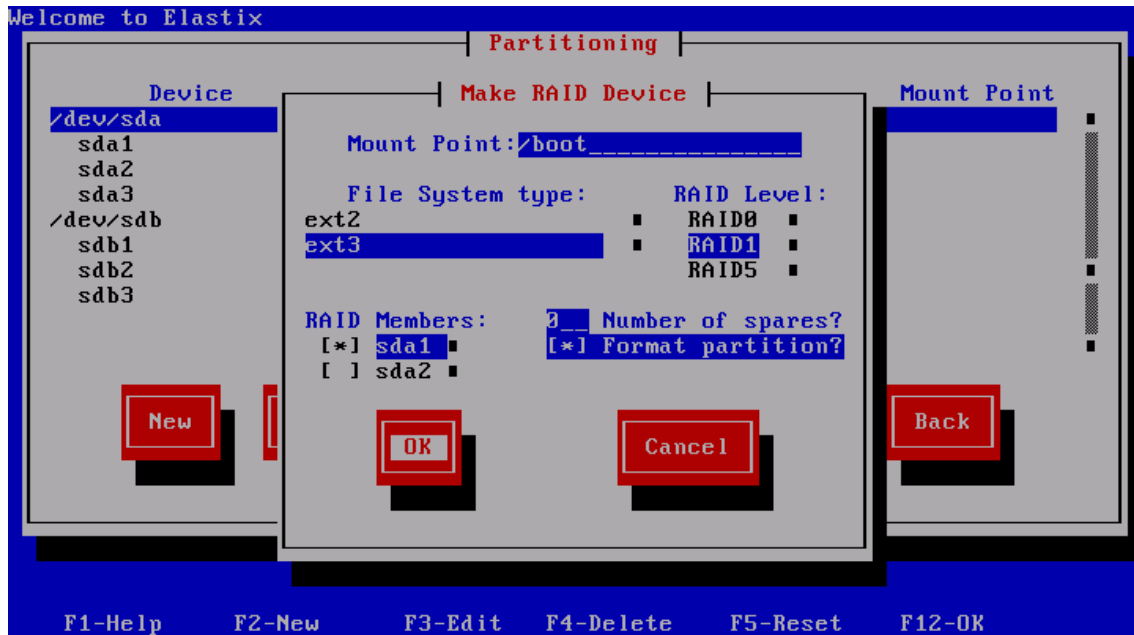
Picture 4.5 Partition summary: at that moment

It's necessary to repeat this process for every RAID partition. Finally you should have the following list:
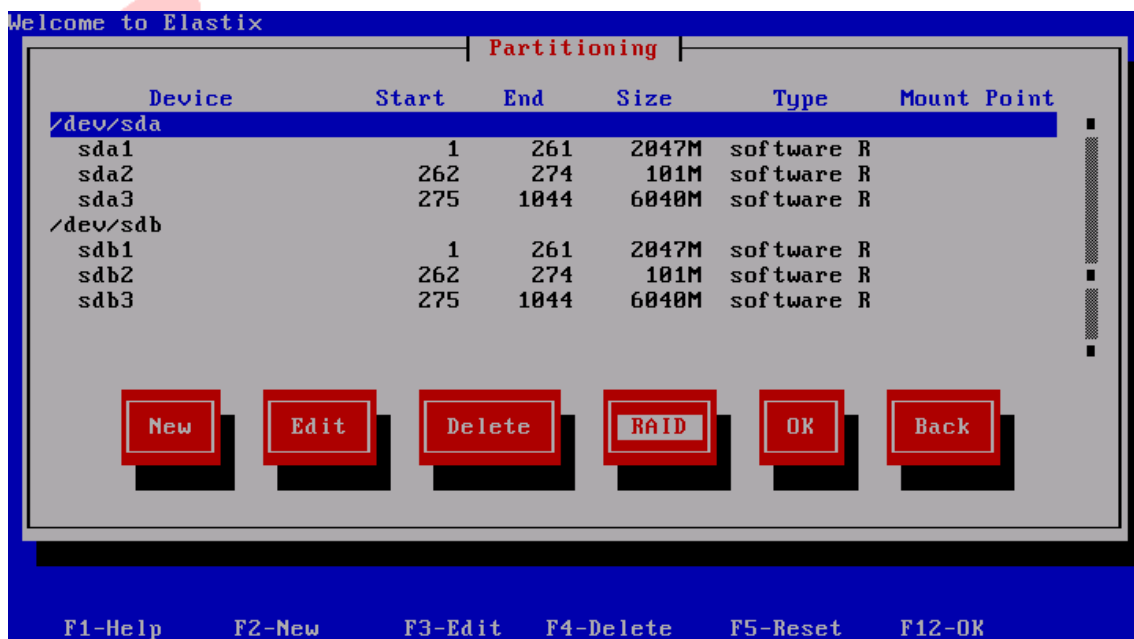
Picture 4.6 Partition list at the end of the process

The list of partitions is exactly the same between the two hard drives. The next step is the creation of RAID devices. For this operation you select the option "RAID".

Picture 4.7 RAID creation

In this screen you have to choose the mount point for the device, the type of system files, the type of RAID (1) and the RAID partitions that belongs to the device. It's necessary to be careful and choose the corresponding partitions. This process it's going to repeat for every RAID device according to the scheme of partitions defined. Later, the RAID devices will appear in the partitions list.

Picture 4.8 we're done, the RAID is created.

Finally, you select the option "OK" and continue with the normal installation procedure.