



hitbullseye

Linux Installation (CentOS7 - Recommended)

CentOS is an open-source Linux distribution based on Red Hat Enterprise Linux (RHEL). CentOS7 is viewed as the preferred option for web hosting due to its stability and active developer community.

In this Lecture, learn how to install CentOS 7 in a few simple steps.



Prerequisites

- Recommended minimum of 10GB of free disk space
- CentOS 7 ISO install file

Follow the Steps to Install CentOS 7

If you are only looking to update or upgrade CentOS, see [How to Upgrade or Update CentOS](#).



Step 1: Download CentOS 7

To download the official and up-to-date CentOS 7 ISO file, navigate to <https://www.centos.org/download/>

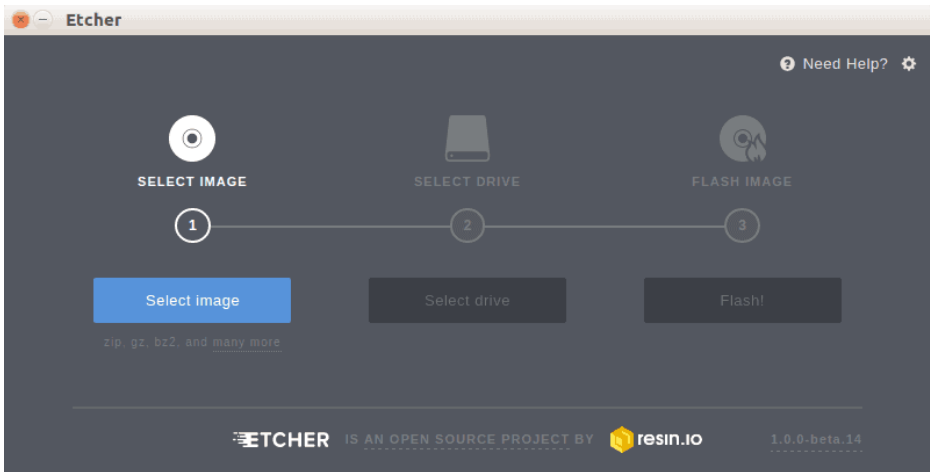
Our recommendation for **non-enterprise environments** is to download the **DVD ISO** option, which includes the GUI. We recommend the **Minimal ISO** option only for production enterprise environments.



Note: Important information to keep in mind for CentOS-based systems is the CentOS 6 EOL in November 2020.

Step 2: Create a Bootable USB or DVD

Now that you have downloaded the ISO image, you can create a bootable USB, burn it on a DVD or load the image on a VM. Several applications can help you create a bootable USB. We recommend using Etcher. Download the application for your system (Windows, macOS or Linux), install and run.



The setup is intuitive and easy:

1. Select the CentOS 7 ISO image.
2. Insert the USB flash.
3. Find the USB and select it in the **Select drive** step.
4. Click **Flash**.

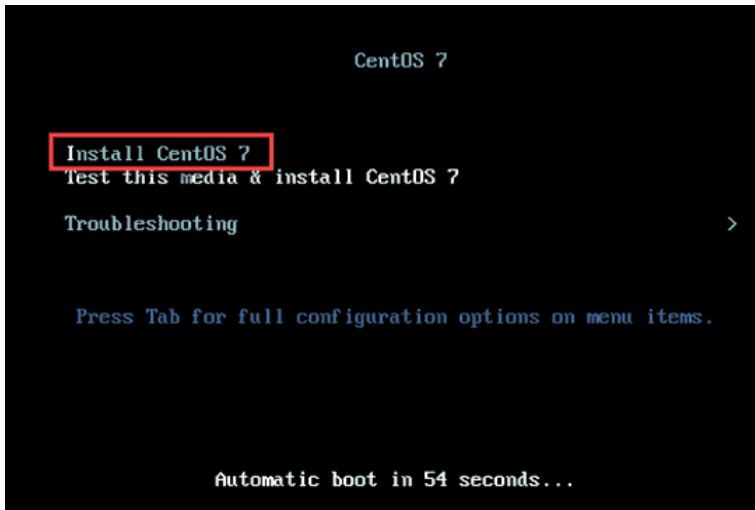
Step 3: Boot the CentOS ISO File

Upon booting the CentOS 7 ISO file, you can begin the installation process. To do so, select **Install CentOS 7**. That will start the installer's graphical interface.

If you are booting from a USB, click the **Install to Hard Drive** icon on the desktop. That will open the installation wizard.




hitbullseye



Step 4: Install CentOS

Before starting the installation process itself, select which language you would like to use during installation. The default option is English.

 **CentOS**

CENTOS 7 INSTALLATION
us Help

WELCOME TO CENTOS 7.

What language would you like to use during the installation process?

English	English	English (United States)
Afrikaans	Afrikaans	English (United Kingdom)
አማርኛ	Amharic	English (India)
العربية	Arabic	English (Australia)
অসমীয়া	Assamese	English (Canada)
Asturianu	Asturian	English (Denmark)
Беларуская	Belarusian	English (Ireland)
Български	Bulgarian	English (New Zealand)
বাংলা	Bengali	English (Nigeria)
		English (Hong Kong SAR China)
		English (Philippines)

Quit Continue

Click **Continue** to confirm your selection.

 **CentOS**

INSTALLATION SUMMARY

CENTOS 7 INSTALLATION
us Help

LOCALIZATION

 **DATE & TIME**
Americas/New York timezone

 **KEYBOARD**
English (US)

 **LANGUAGE SUPPORT**
English (United States)

SOFTWARE

 **INSTALLATION SOURCE**
Local media

 **SOFTWARE SELECTION**
Minimal Install

SYSTEM

 **INSTALLATION DESTINATION**
Automatic partitioning selected

 **KDUMP**
Kdump is enabled

Quit Begin Installation

We won't touch your disks until you click 'Begin Installation'.



There are a couple of settings you would want to configure. All items marked with a warning icon must be configured before you begin the installation. System configurations outlined below may differ based on use case.

Set Date and Time

A screenshot of the "DATE & TIME" configuration window in the CentOS 7 installation process. The window has a dark blue header with the title "DATE & TIME" and a "Done" button. On the right, it says "CENTOS 7 INSTALLATION" and shows a language selection dropdown set to "US" and a "Help!" button. Below the header, there are two dropdown menus: "Region:" set to "Americas" and "City:" set to "New York". To the right of these is a "Network Time" toggle set to "OFF" with a gear icon. The main area is a world map with the Americas highlighted in green. Below the map, there are time settings: a digital clock showing "10:30 PM", a radio button for "24-hour" (selected) and "AM/PM", and a date selector showing "04 / 02 / 2019". At the bottom, an orange banner with a warning icon states: "You need to set up networking first if you want to use NTP".

To set a date and time for the system, click the **Date & Time** icon under the *Localization* heading. Select a region/time zone on the map of the world as seen below. Once you have selected your time zone, hit **Done** to save your changes.

Keyboard Layout

Select the **Keyboard** option under the *Localization* heading to set the keyboard layout.



hitbullseye

The system default is *English (US)* and the language you selected in the initial window. Click the **plus** icon to add more layouts. Move a layout to the top of the list to make it the default option.


Click the **Options** button to define a key combination for switching between keyboard layouts. When you are satisfied with the settings defined, select the **Done** button to confirm the changes.

System Language

Next, select the **Language Support** option under the *Localization* heading. The language selected in the **Welcome to CentOS 7** window will be the default system language. If necessary, select additional languages and hit the **Done** button once you are finished.



hitbullseye



CentOS


INSTALLATION SUMMARY


CENTOS 7 INSTALLATION

us Help


LOCALIZATION


 DATE & TIME
Americas/New York timezone

 KEYBOARD
English (US)


 LANGUAGE SUPPORT
English (United States)


SOFTWARE

 INSTALLATION SOURCE
Local media

 SOFTWARE SELECTION
Minimal Install

SYSTEM

 INSTALLATION DESTINATION
Automatic partitioning selected

 KDUMP
Kdump is enabled

Quit Begin Installation

We won't touch your disks until you click 'Begin Installation'.

Software Selection


Select the Software Selection option under the *Software* heading. You will see a list of predefined **Base Environment** options and optional add-ons. This part entirely depends on your needs.

- **Minimal Install.** This is the most flexible and least resource-demanding option. Excellent for production environment servers. Be prepared to customize the environment.



- **Predefined Server Options.** If you are 100% certain about the role of your server and don't want to customize it for its role, select one of the predefined server environments.
- **GNOME Desktop and KDE Plasma Workspaces.** These environments include a full graphical user interface.

SOFTWARE SELECTION **CENTOS 7 INSTALLATION**

[Done](#)  **us** [Help](#)

Base Environment

- ☒ **Minimal Install**
Basic functionality.
- ☐ **Compute Node**
Installation for performing computation and processing.
- ☐ **Infrastructure Server**
Server for operating network infrastructure services.
- ☐ **File and Print Server**
File, print, and storage server for enterprises.
- ☐ **Basic Web Server**
Server for serving static and dynamic internet content.
- ☐ **Virtualization Host**
Minimal virtualization host.
- ☐ **Server with GUI**
Server for operating network infrastructure services, with a GUI.
- ☐ **GNOME Desktop**
GNOME is a highly intuitive and user friendly desktop environment.
- ☐ **KDE Plasma Workspaces**
The KDE Plasma Workspaces, a highly-configurable graphical user interface which includes a panel, desktop, system icons and desktop widgets, and many powerful KDE applications.

Add-Ons for Selected Environment

- ☐ **Debugging Tools**
Tools for debugging misbehaving applications and diagnosing performance problems.
- ☐ **Compatibility Libraries**
Compatibility libraries for applications built on previous versions of CentOS Linux.
- ☐ **Development Tools**
A basic development environment.
- ☐ **Security Tools**
Security tools for integrity and trust verification.
- ☐ **Smart Card Support**
Support for using smart card authentication.
- ☐ **System Administration Tools**
Utilities useful in system administration.

When you have selected the base environment and optional add-ons, click the **Done** button. Wait for the system to check for software dependencies before you move on to the next option.



hitbullseye

Select Installation Destination

Click the **Installation Destination** option under the *System* heading. Check your machine's storage under the *Local Standard Disks* heading. CentOS 7 will be installed on the selected disk.

Partitioning

Option 1: Automatic Partitioning

Under the *Other Storage Options* heading, select the **Automatically configure partitioning** checkbox. This ensures the selected destination storage disk will automatically partition with the **/ (root)**, **/home** and **swap** partitions. It will automatically create an LVM logical volume in the **XFS file system**.

If you do not have enough free space, you can reclaim disk space and instruct the system to delete files.

When finished, click the **Done** button.

Option 2: Manual Partitioning

Select the **I will configure partitioning** checkbox and choose **Done**.

If you want to use other file systems (such as **ext4** and **vfat**) and a non-LVM partitioning scheme, such as **btrfs**. This will initiate a configuration pop-up where you can set up your partitioning manually.

This is an advanced option that depends on your requirements.



Configuring KDUMP

KDUMP is enabled by default.

To disable the KDUMP kernel crash dumping mechanism, select the **KDUMP** option under the *System* heading and uncheck the **Enable kdump** checkbox. Click the **Done** button to confirm your changes.

Note: KDUMP captures system information at the time of a crash. It helps you diagnose the cause of the crash. When enabled, kdump reserves a portion of system memory.

Network and Hostname

Click the *Network & Host Name* option under the *System* heading.

For the hostname, type in the fully qualified domain name of your system. In our example, we will set the **Hostname** as *my_server.phoenixnap.com*, where *my_server* is the hostname while *phoenixnap.com* is the domain.



hitbullseye

NETWORK & HOST NAME

CENTOS 7 INSTALLATION

Done

us

Help!

Ethernet (enp0s3)
Intel Corporation 82540EM Gigabit Ethernet Controller (

+ -

Ethernet (enp0s3)
Disconnected

Hardware Address

Speed 1000 Mb/s

OFF

Configure...

Host name: server.phoenixnap.com

Apply

Current host name: localhost

Select **Configure...** and select to add **IPv4** settings or **IPv6** settings depending on what you have. Add static IP addresses to help identify your computer on the network. Bear in mind that your network environment's settings define these values.

NETWORK & HOST NAME CENTOS 7 INSTALLATION

Editing enp0s3

Connection name:

General Ethernet 802.1X Security DCB Proxy **IPv4 Settings** IPv6 Settings

Method: Manual

Addresses

Address	Netmask	Gateway
<input type="text"/>	<input type="text"/>	<input type="text"/>

DNS servers:

Search domains:

DHCP client ID:

☐ Require IPv4 addressing for this connection to complete

To add a static IP address:

1. Select **Manual** from the *Method* drop-down.
2. Click the **Add** button to add a static IP address.
3. Enter the information for your network domain.
 - IP Address
 - Netmask Address
 - Gateway Address
 - DNS Servers Address
4. Click **Save** to confirm your changes.



hitbullseye

By default, all detected ethernet connections are disabled. Click the **ON/OFF toggle** to enable the connection. After the installation of CentOS, follow our guide to learn more details about configuring your network settings.

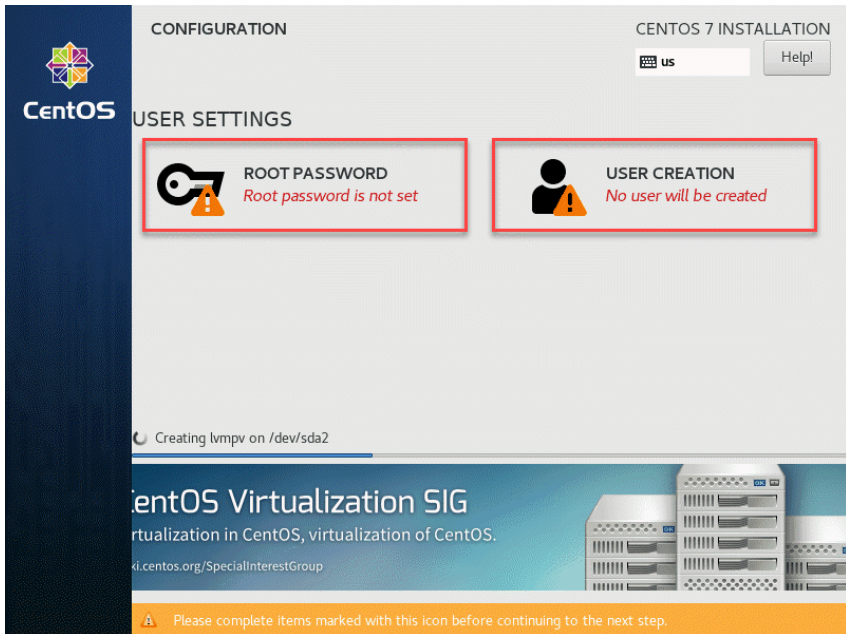
Note: Is CentOS the best option for your server? Refer to the Ubuntu VS CentOS article to see a comparison between the two and decide which one is best for you.

Security Policy

Select the **Security Policy** option under the *System* heading. Choose a profile from the list and hit **Select profile**. Hit the **Done** button to confirm your selection.

Start the Installation Process

Once everything is set up according to your liking, hit **Begin Installation** to start the install. This will start the initial installation process.



Define Root Password

To define the root user, select the **Root Password** icon.

Select a **Root Password** and re-enter it in **Confirm** field.

Root user accounts should consist of at least 12 characters, including uppercase and lowercase letters, numbers, and special characters. We cannot stress enough the importance of a well-defined root password.

Click the **Done** button to proceed.



ROOT PASSWORD CENTOS 7 INSTALLATION

The root account is used for administering the system. Enter a password for the root user.

Root Password:

Strong

Confirm:

Create User

To begin, select the **User Creation** option.

Add a new system account user by defining the **full name**, **user name**, and **password**. We recommend you check the **Make this user administrator** and **Require a password to use this account** checkboxes. This will grant the user root privileges.



hitbullseye

CREATE USER

CENTOS 7 INSTALLATION

Done

us Help

Full name

Deon Tucker

User name

dtucker

Tip: Keep your user name shorter than 32 characters and do not use spaces.

☒ Make this user administrator

☒ Require a password to use this account

Password

.....

Strong

Confirm password

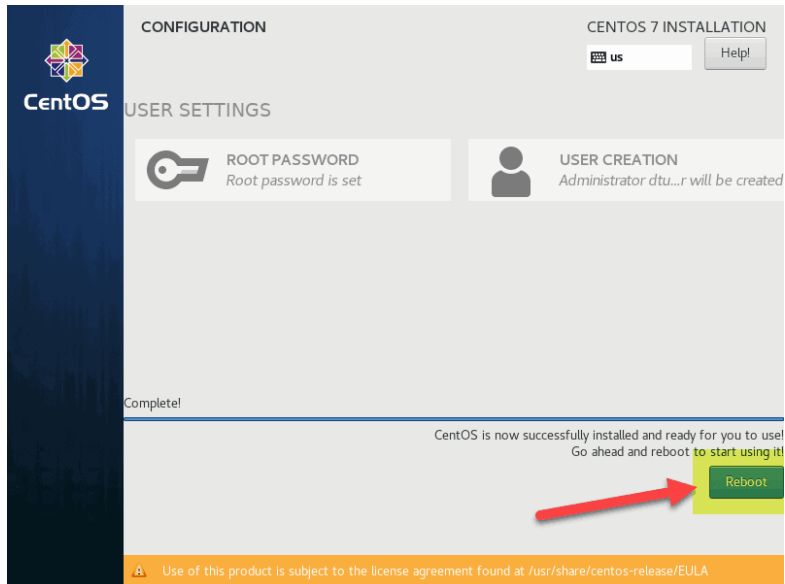
.....

Advanced...

After you fill in all of the fields and define a **secure password**, select **Done** in the upper-left corner of the screen. Wait for the installation process to complete.



hitbullseye



Before you start using your new CentOS installation, reboot the system. Click the **Reboot** button.