

# Linux

## Install Basic Operating System

Advanced Linux system administrator skills are required, please read carefully. Selecting all the default configurations during the operating system installation may not always be suitable.

The latest version of RedHat Enterprise Linux 7 or CentOS 7 (x86\_64 is the only architecture supported) should be downloaded and installed. Do not install a default LAMP environment or other server packages.

System reboots are required to complete the installation. Be sure to remove the install disk or otherwise reset your server's boot media before rebooting.

The precise server configuration (such as disk partitioning, networking, etc) is dependent on how the hub is to be used and what hardware is being used, all the possible configuration options are not specifically outlined here. This installation guide outlines a very basic configuration but may not be suitable for larger sites. For larger sites, it is generally expected that the hub will be managed by an experienced Linux administrator who can help setup your site to meet your specific requirements.

All hardware, filesystem partitions, RAID configurations, backup models, security models, etc. and base configurations of the hosts email server, SSH server, network, etc. are the responsibility of the system administrator managing the host.

The following instructions only instruct how to install Hubzero software. At a minimum a "Basic Server" host, ideally from a 'minimal' ISO image, is required with network access.

The Hubzero software expects to be installed on a headless server without a Graphical User Interface.

## Configure Networking and DNS

Configure your host's network as desired. A registered domain name and SSL certificate is required and should be obtained prior to installation. A static IP address is highly recommended as well.

By default, the Hubzero middleware uses IP addresses in the 192.168.0.0/16 subnet. Do not use an IP address in this range for your host.

## Set hostname

Throughout this documentation you will see specific instructions for running commands, with part of the text highlighted. The highlighted text should be modified to your local configuration choices. (e.g. replace "example.com" with the fully qualified hostname of your machine).

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HUBzero expects the `hostname` command to return the fully qualified hostname for the system. This step may be skipped if previously configured.

```
sudo hostname hubdomain.org
```

Make the change permanent:

```
sudo hostnamectl set-hostname hubdomain.org
```

### Delete local Users

HUBzero reserves all user ids from 1000 up for hub accounts. As part of the app middleware every account must map to a corresponding system account. Therefore when starting up a hub it is required to remove all accounts that have user ids 1000 or greater. New RedHat/CentOS installations typically do not setup a non root account during setup, but if you have any accounts added to the system, those accounts can be removed as follows:

```
sudo userdel username  
sudo rm -fr /home/username
```

If you require additional system accounts, they should use user and group ids in the range of 500-999 (these will not interfere with hub operations).

### Update the initial OS install

```
sudo yum update -y
```

### Disable SELinux

Hubzero does not currently support SELinux. Since the default install of RHEL turns it on, we have to turn it off.

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```
sudo sed -i 's/^SELINUX=.*SELINUX=disabled/g' /etc/selinux/config
```

Reboot the system for this change to take effect

```
sudo reboot
```

## Yum repository setup

Configure the hubzero repository configuration package

For RedHat Enterprise Linux 7

```
sudo subscription-manager repos --enable rhel-7-server-optional-rpms
```

```
sudo subscription-manager repos --enable rhel-7-server-extras-rpms
```

```
sudo rpm -Uvh https://dl.fedoraproject.org/pub/epel/epel-release-latest-7.noarch.rpm
```

```
sudo subscription-manager repos --enable rhel-server-rhsc1-7-rpms
```

```
sudo rpm -Uvh http://packages.hubzero.org/rpm/julian-el7/hubzero-release-julian-2.2.7-1.el7.noarch.rpm
```

For CentOS 7

```
sudo yum install -y epel-release
```

```
sudo yum install -y centos-release-scl-rh
```

```
sudo rpm -Uvh http://packages.hubzero.org/rpm/julian-el7/hubzero-release-julian-2.2.7-1.el7.noarch.rpm
```