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# How to Setup ZSH and Oh-my-zsh on Linux

The Z Shell or zsh is an interactive UNIX shell and powerful command-line interpreter for scripting language including shell scripting. Zsh has been developed since 1990 by 'Paul Fish', and the 'zsh' moniker is derived from the Yale professor named Zong Shao.

The Z shell has become one of the most popular shells for Linux operating system. It's rich in features and easy to configure and customize. Following are some key zsh features:

- Command auto-complete
- Improved variable handling
- Spelling correction

## On this page

- [Oh-my-zsh](#)
- [Prerequisites](#)
- [What we will do](#)
- [Step 1 - Install and configure ZSH](#)
- [Step 2 - Install and configure Oh-my-zsh framework](#)
- [Step 3 - Change default themes](#)
- [Step 4 - Enable Oh-my-zsh plugins](#)
- [References](#)

- Shared command history
- Kill tab completion
- Environment variable easy setup
- Customizable

## Oh-my-zsh

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Oh-my-zsh is an open source framework for managing ZSH, the Z shell. **There are also some frameworks for the Z shell available, like prezto, Zgen, Antigen etc.** In this tutorial, we will use 'oh-my-zsh' for our zsh configuration.

Oh-my-zsh is a community-driven framework with a lot of features. It comes with a customizable theme and has a rich catalog of plugins aimed at system admins and developers.

In this tutorial, we will show you how to install the Z shell or zsh on Linux Ubuntu and CentOS. And then configure the oh-my-zsh framework for managing zsh. We will also show you how to change the zsh theme and enable some plugins.

## Prerequisites

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- Linux - Ubuntu 16.04 or CentOS 7
- Root privileges

## What we will do

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- Install and configure ZSH
- Install and configure Oh-my-zsh framework
- Change default theme
- Enable oh-my-zsh plugins

## Step 1 - Install and configure ZSH

---

In this step, we will install the Z shell from the repository, and then configure a user to use the Z shell as the default theme. Basically, the default shell on Ubuntu and CentOS is bash, so we will configure a root user to use zsh as the default shell.

To install zsh from the repository, use the following commands.

On Ubuntu:

```
apt install zsh
```

On CentOS:

```
yum install zsh
```

After the installation is complete, change the default shell of the root user to zsh with the chsh command below.

On Ubuntu:

```
chsh -s /usr/bin/zsh root
```

On CentOS:

```
chsh -s /bin/zsh root
```

Now logout from the root user, log in again, and you will get the zsh shell.

Check the current shell used with the command below.

```
echo $SHELL
```

The output should be zsh. Here's the result on Ubuntu.

```
root@ubuntu-zsh:~#  
root@ubuntu-zsh:~# apt install zsh  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
zsh is already the newest version (5.1.1-1ubuntu2).  
0 upgraded, 0 newly installed, 0 to remove and 33 not upgraded.  
root@ubuntu-zsh:~#  
root@ubuntu-zsh:~# which zsh  
/usr/bin/zsh  
root@ubuntu-zsh:~#  
root@ubuntu-zsh:~# chsh -s /usr/bin/zsh root  
root@ubuntu-zsh:~# exit  
vagrant@ubuntu-zsh:~$ sudo su  
ubuntu-zsh#  
ubuntu-zsh# echo $SHELL  
/usr/bin/zsh  
ubuntu-zsh#  
ubuntu-zsh#
```

And here's the result on CentOS.

```
[root@centos-zsh ~]#  
[root@centos-zsh ~]# yum install zsh  
Loaded plugins: fastestmirror  
Loading mirror speeds from cached hostfile  
* base: mirror.poliwangi.ac.id  
* extras: mirror.poliwangi.ac.id  
* updates: mirror.poliwangi.ac.id  
Package zsh-5.0.2-25.el7_3.1.x86_64 already installed and latest version  
Nothing to do  
[root@centos-zsh ~]#  
[root@centos-zsh ~]# which zsh  
/bin/zsh  
[root@centos-zsh ~]#  
[root@centos-zsh ~]# chsh -s /bin/zsh root  
Changing shell for root.  
Shell changed.  
[root@centos-zsh ~]# exit  
[vagrant@centos-zsh ~]$ sudo su  
[root@centos-zsh]/home/vagrant#  
[root@centos-zsh]/home/vagrant# echo $SHELL  
/bin/zsh  
[root@centos-zsh]/home/vagrant#
```

The Z shell zsh has been installed.

## Step 2 - Install and configure Oh-my-zsh framework

---

So the Z shell is now installed on the system. Next we want to install the oh-my-zsh framework for managing the Z shell zsh. Oh-my-zsh provides an installer script for installing the framework, and we need to install some other required packages, including wget for downloading the installer script and Git for downloading oh-my-zsh shell from GitHub.

So the first step is to install `wget` and `git` on the system. Here are the commands you need to run:

On Ubuntu:

```
apt install wget git
```

On CentOS:

```
yum install wget git
```

Now download the installer script and execute it.

```
wget https://github.com/robbyrussell/oh-my-zsh/raw/master/tools/install.sh -O - |  
zsh
```

The result/output should be similar to the one shown below.

```
Cloning Oh My Zsh...
Cloning into '/root/.oh-my-zsh'...
remote: Counting objects: 831, done.
remote: Compressing objects: 100% (700/700), done.
remote: Total 831 (delta 14), reused 775 (delta 10), pack-reused 0
Receiving objects: 100% (831/831), 567.68 KiB | 274.00 KiB/s, done.
Resolving deltas: 100% (14/14), done.
Checking connectivity... done.
Looking for an existing zsh config...
Using the Oh My Zsh template file and adding it to ~/.zshrc

      _-_-_-_-_-
     /_/_/_/_/_\
    /_/_/_/_/_\ /_/_/_/_/_\ /_/_/_/_/_\ /_/_/_/_/_\
   /_/_/_/_/_\ /_/_/_/_/_\ /_/_/_/_/_\ /_/_/_/_/_\
  /_/_/_/_/_\ /_/_/_/_/_\ /_/_/_/_/_\ /_/_/_/_/_\
 /_/_/_/_/_\ /_/_/_/_/_\ /_/_/_/_/_\ /_/_/_/_/_\
/_/_/_/_/_\ /_/_/_/_/_\ /_/_/_/_/_\ /_/_/_/_/_\

....is now installed!

Please look over the ~/.zshrc file to select plugins, themes, and options.

p.s. Follow us at https://twitter.com/ohmyzsh.

p.p.s. Get stickers and t-shirts at http://shop.planetargon.com.
```

So, oh-my-zsh is installed in the home directory `~/oh-my-zsh`.

Next, we need to create a new configuration for zsh. As with the Bash shell, which has a configuration named `.bashrc`, for zsh, we need a `.zshrc` configuration file. It's available in the `oh-my-zsh` templates directory.

Copy the template `.zshrc.zsh-template` configuration file to the home directory `.zshrc` and apply the configuration by running the source command, as shown below.

```
cp ~/.oh-my-zsh/templates/zshrc.zsh-template ~/.zshrc
source ~/.zshrc
```

Oh-my-zsh is now installed on the system, and the Z shell has been configured for using the oh-my-zsh framework with default configuration.

The following result is on Ubuntu.

```
ubuntu-zsh#  
ubuntu-zsh# cp ~/.oh-my-zsh/templates/zshrc.zsh-template ~/.zshrc  
ubuntu-zsh#  
ubuntu-zsh# source ~/.zshrc  
→ ~  
→ ~
```

And here's what you'll see on CentOS.

```
[root@centos-zsh]~#  
[root@centos-zsh]~# cp ~/.oh-my-zsh/templates/zshrc.zsh-template ~/.zshrc  
[root@centos-zsh]~#  
[root@centos-zsh]~# source ~/.zshrc  
→ ~  
→ ~
```

### Step 3 - Change default themes

The default .zshrc configuration that's provided by oh-my-zsh is using 'robbyrussell' theme. In this step, we will edit the configuration and change the default theme.



The Oh-my-zsh framework provides many themes for your zsh shell, head to the link below to take a look at the available options.

<https://github.com/robbyrussell/oh-my-zsh/wiki/Themes>

Alternatively, you can go to the 'themes' directory and see the list of available themes.

```
cd ~/.oh-my-zsh/themes/  
ls -a
```

[illegible]

In order to change the default theme, we need to edit the `.zshrc` configuration file. Edit the configuration with the [vim](#) editor.

```
vim ~/.zshrc
```

Pick one zsh theme - let's say 'risto' theme.

Then change the 'ZSH\_THEME' line 10 with 'risto' theme as below.

```
ZSH_THEME='risto'
```

Save and exit.

Now, reload the configuration `.zshrc` and you will see that 'risto' theme is currently used as your shell theme.

```
source ~/.zshrc
```

The result on Ubuntu.



```
→ ~  
→ ~ vim ~/.zshrc  
→ ~  
→ ~ source ~/.zshrc  
root@ubuntu-zsh:~ #  
root@ubuntu-zsh:~ # echo $SHELL  
/usr/bin/zsh  
root@ubuntu-zsh:~ #
```

Result on CentOS.

```
→ ~  
→ ~  
→ ~ vim ~/.zshrc  
→ ~  
→ ~ source ~/.zshrc  
root@centos-zsh:~ #  
root@centos-zsh:~ # echo $SHELL  
/bin/zsh  
root@centos-zsh:~ #
```

So this way, you can apply a new oh-my-zsh theme.

## Step 4 - Enable Oh-my-zsh plugins

---

Oh-my-zsh offers awesome plugins. There are a lot of plugins for our environment, aimed at developers, system admins, and everyone else.

Default plugins are in the 'plugins' directory.

```
cd ~/.oh-my-zsh/plugins/  
ls -a
```

```

root@ubuntu:~# zsh
root@ubuntu:~# cd ~/.oh-my-zsh/plugins/
root@ubuntu:~# ls -a
.          cask          docker          git-extras     jira           n98-magerun     pyLint          sprunge         tmuxinator
..         catlog         docker-compose git-fast         jruby          nanoc           python          ssh-agent      torrent
adb        celery         dotenv         git-flow        jsonutils      ng              ralis           stack           tugboat
ant        chruby        dropir        git-flow-avh    jump           nmap            rake            sublime         ubuntu
apache2-macports chacknorris   emacs         git-gui         kate           node            rake-fast       sudo            urtools
arcanist   cloudapp     ember-cil     git-hugflow    kitchen        nowad           rand-quote      supervisor     vagrant
archlinux  codeclimate  emoji         git-ignore     knife          npm             react-native    suse           vault
asdf       coffee       emoji-clock   git-prompt     knife_ssh      nvm             rbfu            svn             via-interaction
autobenv   colima       emoji         git-remote-branch kubect1        nyan            react-native    svn-fast-info  vim-node
autojump   colored-man-pages encoded4       glassfish       laravel        osx             rebar           swiftie        virtualenv
autopep8   colorize     extract       gitlabalias    laravel4       pass            redis-cli       symfony        virtualenvwrapper
aws        command-not-found fabric         gruvutils       laravel5       paver           repo            symfony2        vundle
battery    common-aliases fancy-ctrl-z   go              last-working-dir pep8            rsync           systemd        wakeonlan
bbedit     composer     fastfile     golang         lein            perl             per-directory-history ruby            systemd        wd
bgnotify   copybuffer   fbterms      gradle          lighthouse      perl             rvm             taskwarrior    web-search
boot2docker copydir      fedora        grails          lol             jenkins          jping           safe-paste      terminator     xcode
bower      copyfile     firewallld   grunt           macports        man             pip             sbt             terraform      yarn
branch     cp           forklift     gulp            mercurial       marked2         pj              pod             scala           testastic      yii
brew       cpam        fossil        heroku          history          history-substring-search mix              mix-fast        powder          powify         shrink-path     tig             zsh-navigation-tools
bundler    debian      frontend-search history          htople          1wols          moon            mvm             profiles        singlechar      tmux            zsh_reload
bunyan     dircycle    gas           httpie          htople          1wols          moon            mvm             profiles        singlechar      tmux            zsh_reload
cabal      dirhistory  gb           htople          htople          1wols          moon            mvm             profiles        singlechar      tmux            zsh_reload
cake       dirperlist  geeknote     jake-node      jshbuild        mysql-macports pnpm
cakeyml3   dircycle    gas           httpie          htople          1wols          moon            mvm             profiles        singlechar      tmux            zsh_reload
capistrano djangoo     gem          jake-node      jshbuild        mysql-macports pnpm
cargoo     dircycle    gas           httpie          htople          1wols          moon            mvm             profiles        singlechar      tmux            zsh_reload

```

In this step, we will tweak zsh using the 'oh-my-zsh' framework by enabling some plugins. In order to enable the plugins, we need to edit the `.zshrc` configuration file.

Edit `.zshrc` configuration file.

```
vim ~/.zshrc
```

Go to the 'plugins' line 54 and add some plugins that you want to enable inside the bracket `()`. For example, here's the change I made in my case:

```
plugins=(git extract web-search yum git-extras docker vagrant)
```

Following is the result when using the 'extract' plugin - you can extract zip and tar file using the 'extract' command.

```
root@centos-zsh:~ #  
root@centos-zsh:~ # ll  
total 12K  
-rw-r--r--. 1 root root 137 May 26 01:27 extract-test.tar.gz  
-rw-r--r--. 1 root root 5.6K May 26 01:28 zip-extract.zip  
root@centos-zsh:~ #  
root@centos-zsh:~ # extract zip-extract.zip  
Archive: zip-extract.zip  
  inflating: zip-extract/anaconda-ks.cfg  
  inflating: zip-extract/original-ks.cfg  
root@centos-zsh:~ # extract extract-test.tar.gz  
test.txt  
hakase-labs.txt  
root@centos-zsh:~ # ll  
total 12K  
-rw-r--r--. 1 root root 137 May 26 01:27 extract-test.tar.gz  
-rw-r--r--. 1 root root  0 May 26 01:26 hakase-labs.txt  
-rw-r--r--. 1 root root  0 May 26 01:26 test.txt  
drwxr-xr-x. 2 root root  52 May 26 01:29 zip-extract  
-rw-r--r--. 1 root root 5.6K May 26 01:28 zip-extract.zip  
root@centos-zsh:~ #
```

Yum command - yum info with only 'yp' command.

```
root@centos-zsh:~ #  
root@centos-zsh:~ # yp zsh  
Loaded plugins: fastestmirror  
Loading mirror speeds from cached hostfile  
* base: mirror.poliwangi.ac.id  
* extras: mirror.poliwangi.ac.id  
* updates: mirror.poliwangi.ac.id  
Installed Packages  
Name      : zsh  
Arch      : x86_64  
Version   : 5.0.2  
Release   : 25.el7_3.1  
Size      : 5.6 M  
Repo      : installed  
From repo : updates  
Summary   : Powerful interactive shell  
URL       : http://zsh.sourceforge.net/  
License   : MIT  
Description : The zsh shell is a command interpreter usable as an interactive login  
            : shell and as a shell script command processor. Zsh resembles the ksh  
            : shell (the Korn shell), but includes many enhancements. Zsh supports  
            : command line editing, built-in spelling correction, programmable  
            : command completion, shell functions (with autoloading), a history  
            : mechanism, and more.  
  
root@centos-zsh:~ #
```

Vagrant plugin for command autocompletion.

```
~ $ vagrant box  
add      -- ADDRESS Adds a box to the system  
help     -- COMMAND List subcommands  
list     -- Lists all installed boxes  
outdated -- Checks if a box has newer version  
remove   -- NAME Removes a box from the system  
repackage -- NAME PROVIDER VERSION Repackages an installed box into a `.box` file  
update   -- Updates box to a newer version, if available
```

To conclude, the Z shell, as well as the oh-my-zsh framework, have been installed. In addition, oh-my-zsh default theme has been changed with some plugins enabled.

## References

---

- <https://github.com/robbyrussell/oh-my-zsh/wiki>
- <https://github.com/robbyrussell/oh-my-zsh/wiki/Themes>
- <https://github.com/robbyrussell/oh-my-zsh/wiki/Plugins>

### About Muhammad Arul

Muhammad Arul is a freelance system administrator and technical writer. He is working with Linux Environments for more than 5 years, an Open Source enthusiast and highly motivated on Linux installation and troubleshooting. Mostly working with RedHat/CentOS Linux and Ubuntu/Debian, Nginx and Apache web server, Proxmox, Zimbra Administration, and Website Optimization. Currently learning about OpenStack and Container Technology.

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**By:** geoff **at:** 2019-06-03 11:15:59

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I get all the way down to this command:

```
source ~/.zshrc
```

and get this error:

```
autoload: command not found
```

```
bash: /home/me/.oh-my-zsh/oh-my-zsh.sh: line 41: syntax error near unexpected token `('
```

```
bash: /home/me/.oh-my-zsh/oh-my-zsh.sh: line 41: `for plugin ($plugins); do'
```

Where does the "source" command come from?



**By:** Spafbi **at:** 2019-06-07 13:13:22

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Geoff, "source" is a built in shell command. If you're still in bash you need to first load zsh; just type zsh and press enter, then try to source ~/.zshrc.

-Spafbi

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