



Clear Linux*
Project

How to contribute

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What is Clear Linux* OS?

Clear Linux OS is an open source, rolling release Linux distribution optimized for **performance** and **security**, from the Cloud to the Edge, designed for **customization**, and **manageability**.



Clear Linux*

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Why Clear Linux OS?

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youtube.com/ClearLinuxOS

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What are we going to do in this workshop?

1 Interact with Clear Linux* OS and its main features:

- Bundles
- Swupd
- Stateless
- Close to upstream

2 Learn how to:

- Create a [build](#) system
- Build an existing package
- Build a new package w/ autospec
- [Contribute](#) to the ML

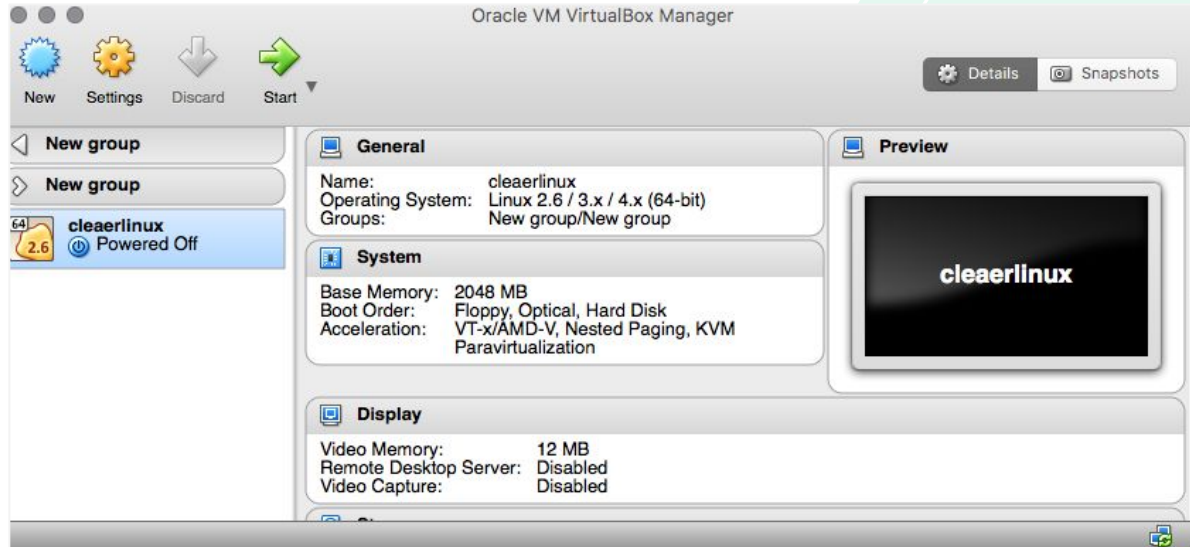
Pre-install

There are a couple of things to take care of before you install in a bare metal system:

- 1** Recommended minimum system requirements
- 2** Check processor and EFI firmware compatibility
- 3** Create a bootable USB drive

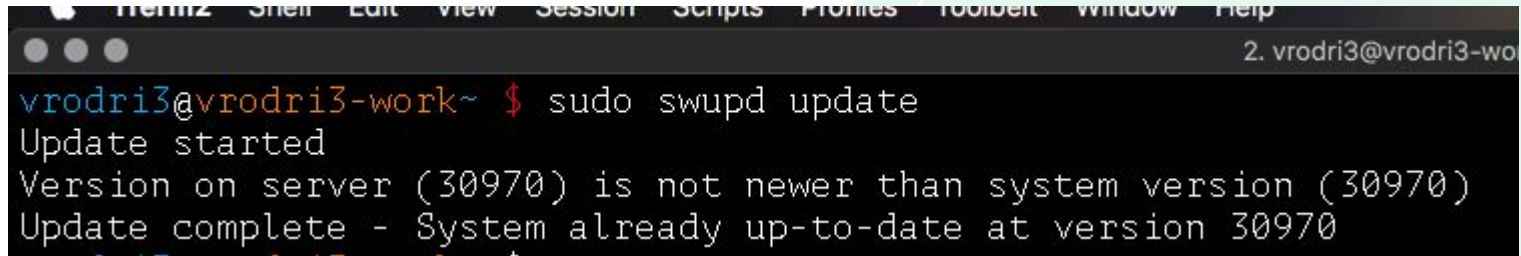
We are going to install in a VM for now

As prework , please follow the instructions for: [Clear Linux* OS on VirtualBox*](#)



Release Cadence

- Clear Linux* OS updates are based on a **rolling releases** that can occur daily, up to a few times per week.
- Each release has a unique version number that identifies every component in the OS from kernel, to driver, to tool, to GUI application.
- Most components are included in entities called bundles.

A terminal window with a dark background and light text. The window title bar shows 'vrodri3@vrodri3-work' and '2. vrodri3@vrodri3-wo'. The terminal content shows the command 'sudo swupd update' being executed, followed by the output: 'Update started', 'Version on server (30970) is not newer than system version (30970)', and 'Update complete - System already up-to-date at version 30970'.

```
vrodri3@vrodri3-work~ $ sudo swupd update
Update started
Version on server (30970) is not newer than system version (30970)
Update complete - System already up-to-date at version 30970
```

Updates

By default, Clear Linux* OS automatically checks for updates, looking for the **latest performance** and **security fixes** to be installed when they are available. **swupd** is the custom tool designed to manage updates and bundles.

```
2. vrodri3@vrodri3-work :: ~ (ssh)
vrodri3@vrodri3-work- $ swupd -h
Usage:
  swupd [OPTION...]
  or swupd [OPTION...] SUBCOMMAND [OPTION...]

Help Options:
  -h, --help           Show help options
  -v, --version        Output version information and exit

Subcommands:
  info                 Show the version and the update URLs
  autoupdate           Enable/disable automatic system updates
  check-update         Check if a new OS version is available
  update               Update to latest OS version
  bundle-add           Install a new bundle
  bundle-remove       Uninstall a bundle
  bundle-list          List installed bundles
  search               Searches for the best bundle to install a binary or library (depends on os-core-search bundle)
  search-file          Command to search files in Clear Linux bundles
  diagnose             Verify content for OS version
  repair               Repair local issues relative to server manifest (will not modify ignored files)
  os-install           Install Clear Linux OS to a blank partition or directory
  mirror               Configure mirror url for swupd content
  clean                Clean cached files
  hashdump             Dump the HMAC hash of a file
  verify               NOTE: this command has been superseded, please use "swupd diagnose" instead

To view subcommand options, run 'swupd SUBCOMMAND --help'
```


OS Design Principle: Easier Manageability

Clear Linux* OS employs the stateless concept - a strict separation between User and System files for easier OS manageability.

Traditional OS:

Content and data intermingled

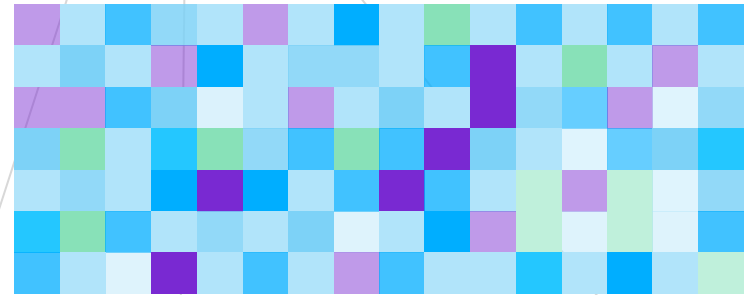
Clear Linux OS:

Designed so that the user is able to quickly and easily manage their custom configurations vs. system configurations.

This modularity allows for **easier manageability** and simplifying customization.

[Practice](#)

Traditional OS



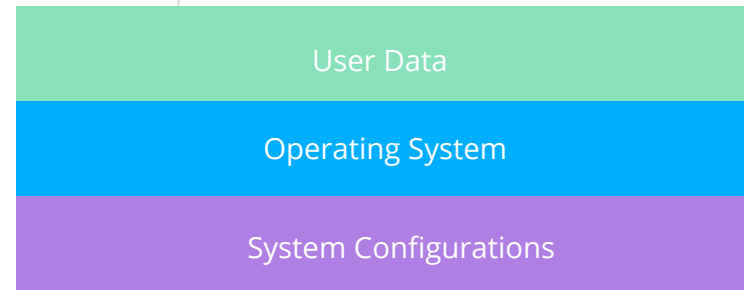
LEGEND

User Data

Operating System

System Configuration

Clear Linux



Create a build system

1 Once you have your VM you can install the bundle for:

```
# swupd bundle-add os-clr-on-clr  
  
# swupd bundle-add  
mock, dnf, rpm
```

2 Then follow the instructions to [download](#) and execute the script:

```
user-setup.sh
```

3 Identify and clone the repository corresponding to the software package by running:

```
make clone_<PACKAGENAME>.
```

This will clone the repository from <https://github.com/clearlinux-pkgs> which contain existing files and directories created by the autospec tooling.


















Lab time

- build hello_world package
- Build a new package with autospec

How to report a BUG

- Please submit any issues in upstream packages to their respective projects.
- Bugs or issues related to Clear Linux* OS Distribution may be submitted here: <https://github.com/clearlinux/distribution/issues>

Let's fix some bugs

<input type="checkbox"/>	 9 Open	<input checked="" type="checkbox"/> 4 Closed	Author	Labels	Projects	Milestones	Assignee	Sort
<input type="checkbox"/>		libappindicator-gtk3 required for Dropbox icon	desktop	enhancement	low hanging fruit			1
		package-request						
		#1025 opened on Jul 17 by Pummelchen						
<input type="checkbox"/>		gnome-boxes should offer a suitable clear linux image by default/in the first screen	desktop	enhancement	low hanging fruit			
		#1008 opened on Jul 13 by fenrus75						
<input type="checkbox"/>		add plata-theme	desktop	enhancement	low hanging fruit	package-request		1
		#850 opened on Jun 5 by mrkz						
<input type="checkbox"/>		Package Request: Fira Code font	desktop	enhancement	low hanging fruit	package-request		
		#817 opened on May 29 by yerbestpal						
<input type="checkbox"/>		Missing gnome-tracker	bug	desktop	low hanging fruit	medium priority		4
		#739 opened on May 15 by RobertBuhren						
<input type="checkbox"/>		Add Gnome Shell Extension: KStatusNotifierItem/AppIndicator Support	desktop	enhancement	low hanging fruit	package-request		4
		#675 opened on May 6 by pceiley						
<input type="checkbox"/>		Support the --ntlm and --negotiate options with curl/libcurl	enhancement	low hanging fruit				
		#513 opened on Mar 6 by gtkramer						
<input type="checkbox"/>		Fix perl plugin loading for weechat	enhancement	low hanging fruit				1
		#404 opened on Feb 7 by gtkramer						
<input type="checkbox"/>		Include hplip for full print and scan support for HP printers	enhancement					8

You can also contributing by

- Sharing your experience, use cases, point of view, etc.
- Feeding our forum *wishlist*
- Reporting bugs
- Answering questions in our community forum, twitter, and other channels
- Updating the documentation
- Translating the UI and the documentation
- **Helping to create the Wikipedia page !!!**

Learn more at

clearlinux.org/developer

community.clearlinux.org

github.com/clearlinux

[github.com/clearlinux
/clear-linux-documentation](https://github.com/clearlinux/clear-linux-documentation)

[@clearlinux](https://twitter.com/clearlinux)



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Thanks

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Available on select Intel® processors. Requires an Intel® HT Technology-enabled system. Your performance varies depending on the specific hardware and software you use. Learn more by visiting <http://www.intel.com/info/hyperthreading>.

§ Configurations: The testing was done on Based on fourth-generation Intel Xeon E5-2699 v4 @2.20 GHz processor with 22 cores, 55 MB LLC and 62 GB memory 16 1G hugepages. The testing was conducted in OPNFV Pharos testbed on Pod 12 by VSPERF community engineers

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