



RED HAT ENTERPRISE LINUX 8 IMAGE BUILDER

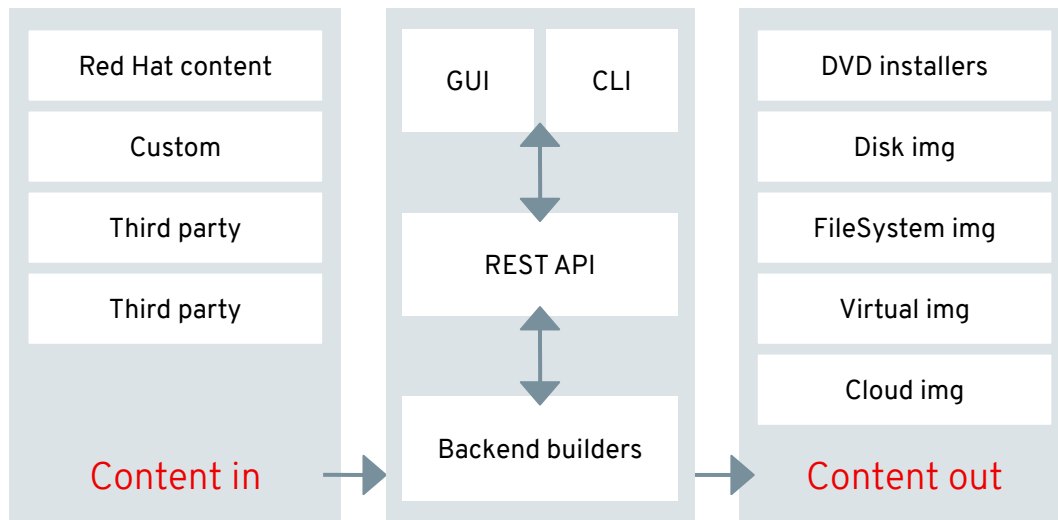
Jenn Giardino
Senior interaction designer

Terry Bowling
Sr. Technical product manager

May 2018

IMAGE BUILDER

Tooling to enable automated creation of customized Red Hat® Enterprise Linux® OS images



OUTPUT IMAGE TYPES

Current Capabilities



Introduced in

Red Hat Enterprise Linux 7

- › Live Bootable ISO (.iso)
- › QEMU QCOW2 Image (.qcow2)
- › Raw Partitioned Disk Image (.img)
- › Ext4 File System Image (.img)



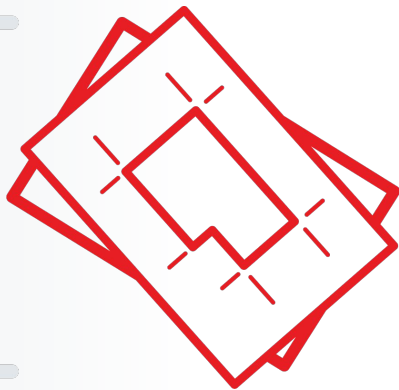
Introduced in

Red Hat Enterprise Linux 8

- › Amazon Machine Image (.ami)
- › Azure Disk Image (.vhd)
- › VMware Virtual Machine Disk (.vmdk)
- › OpenStack (.qcow2)

BLUEPRINTS

Current Capabilities

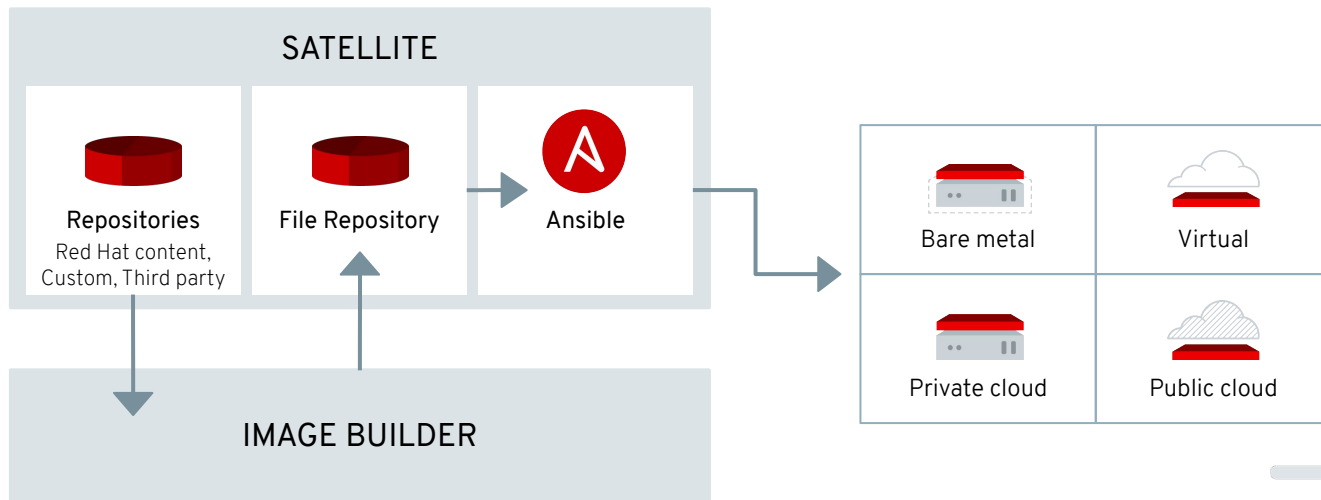


- › Define Package List
- › Define Hostname
- › Create User (password and ssh keys)

DEMO

IMAGE BUILDER

Integration with Red Hat Satellite



FUTURE CAPABILITIES

Under consideration for inclusion in a future release



Image types

- › Hyper-V
- › Google
- › IBM
- › Alibaba
- › more...

Deployment and configuration options

- Pull source content from Red Hat Satellite/ Red Hat Subscription Management (available today)
- Publish images back to Red Hat Satellite for deployment
- More advanced configuration
- Pre vs. post image creation
- Ansible? Other management solutions?

DOCUMENTATION

In 7.6 and 8.0

Red Hat Enterprise Linux 7.6



Installation Guide

Chapter 28: Building custom system
Images with Composer »

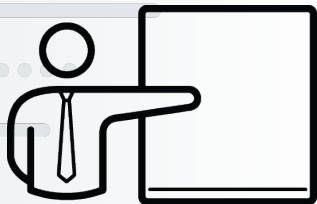
Red Hat Enterprise Linux 8.0



Installing and deploying Red Hat Enterprise Linux

Chapter 6: Building custom system
images with Composer »

Try out **Image Builder** at one of these labs



The definitive Red Hat Enterprise Linux 8 Beta hands-on lab

- › Wednesday, May 8, 1:00 p.m.-3:00 p.m.
- › Thursday, May 9, 10:45 a.m.-12:45 p.m.

Building a RHEL gold image for Microsoft Azure

- › Thursday, May 9, 2:00 - 4:00

Visit the **Red Hat Booth**



Ecosystem Expo
Exhibit Hall A



Take this survey to share feedback about Image Builder.

<http://bit.ly/rhel2019>



Visit the User Experience Design team in the **Feedback Zone**.



Ecosystem Expo
Exhibit Hall A

Help Identify Top Tasks for Red Hat Enterprise Linux

Got 5 minutes? Come talk to us and help identify the most important tasks in Red Hat Enterprise Linux!

Sara

**RED HAT
SUMMIT**

THANK YOU



plus.google.com/+RedHat



linkedin.com/company/red-hat



youtube.com/user/RedHatVideos



facebook.com/redhatinc



twitter.com/redhat

DEMO SCREENCAPS



Filter by Name...



Create Blueprint



example-atlas

Automatically Tuned Linear Algebra Software

Edit Blueprint

Create Image



example-development

A general purpose development image

Edit Blueprint

Create Image



example-http-server

An example http server with PHP and MySQL support.

Edit Blueprint

Create Image



web-development-server

Edit Blueprint

Create Image



[Back to Blueprints](#) > [example-http-server](#) > Edit Blueprint

1 Pending Change

Commit

Discard Changes













Create Image

example-http-server

Available Components

Filter By Name...

1 - 50 of 7971 < 1 of 160 >

	aaajohan-comfortaa-fonts +
Modern style true type font	
	abattis-cantarell-fonts +
Cantarell, a Humanist sans-serif font family	
	abrt +
Automatic bug detection and reporting tool	
	abrt-addon-ccpp +
abrt's C/C++ addon	
	abrt-addon-coredump-helper +
abrt's /proc/sys/kernel/core_pattern helper	
	abrt-addon-kerneloops +
abrt's kerneloops addon	
	abrt-addon-pstoreoops +
abrt's pstore oops addon	
	abrt-addon-vmcore +
abrt's vmcore addon	
	abrt-addon-xorg +
abrt's Xorg addon	
	abrt-cli +
Virtual package to make easy default installation on non-graphical environments	
	abrt-cli-ng +
abrt's improved command line interface	
	abrt-console-notification +
ABRT console notification	









Blueprint Components

Name Filter by Name...



Selected Components 8

Dependencies 128

> <input type="checkbox"/>		httpd Apache HTTP Server	Version 2.4.35	Release 6.el8+2089+57a79027	⋮
> <input type="checkbox"/>		mod_ssl SSL/TLS module for the Apache HTTP Server	Version 2.4.35	Release 6.el8+2089+57a79027	⋮
> <input type="checkbox"/>		openssh-server An open source SSH server daemon	Version 7.8p1	Release 3.el8	⋮
> <input type="checkbox"/>		php PHP scripting language for creating dynamic web sites	Version 7.2.11	Release 1.el8+2002+9409c40c	⋮
> <input type="checkbox"/>		php-mysqlnd A module for PHP applications that use MySQL databases	Version 7.2.11	Release 1.el8+2002+9409c40c	⋮
> <input type="checkbox"/>		postgresql PostgreSQL client programs	Version 10.5	Release 1.el8+1546+27ad5f8e	⋮
> <input type="checkbox"/>		rsync A program for synchronizing files over a network	Version 3.1.3	Release 4.el8	⋮
> <input type="checkbox"/>		tmux Terminal multiplexer	Version 2.7	Release 1.el8	⋮

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1 Pending Change

Commit

Discard Changes












Create Image

example-http-server

Available Components

Filter By Name...

1 - 50 of 7971 < 1 of 160 >

-  **aaajohan-comfortaa-fonts** +
Modern style true type font
-  **abattis-cantarell-fonts** +
Cantarell, a Humanist sans-serif font family
-  **abrt** +
Automatic bug detection and reporting tool
-  **abrt-addon-ccpp** +
abrt's C/C++ addon
-  **abrt-addon-coredump-helper** +
abrt's /proc/sys/kernel/core_pattern helper
-  **abrt-addon-kerneloops** +
abrt's kerneloops addon
-  **abrt-addon-pstoreoops** +
abrt's pstore oops addon
-  **abrt-addon-vmcore** +
abrt's vmcore addon
-  **abrt-addon-xorg** +
abrt's Xorg addon
-  **abrt-cli** +
Virtual package to make easy default installation on non-graphical environments
-  **abrt-cli-ng** +
abrt's improved command line interface








Blueprint Components

Name Filter by Name...

↓ ↺ ↻

Selected Components 8

Dependencies 128

-  **http** Version 2.4.35 Release 6.el8+2089+57a79027
Apache HTTP Server
-  **mod_ssl** Version 2.4.35 Release 6.el8+2089+57a79027
SSL/TLS module for the Apache HTTP Server
-  **openssh-server** Version 7.8p1 Release 3.el8
An open source SSH server daemon
-  **php** Version 7.2.11 Release 1.el8+2002+9409c40c
PHP scripting language for creating dynamic web sites
-  **php-mysqnd** Version 7.2.11 Release 1.el8+2002+9409c40c
A module for PHP applications that use MySQL databases
-  **postgresql** Version 10.5 Release 1.el8+1546+27ad5f8e
PostgreSQL client programs
-  **rsync** Version 3.1.3 Release 4.el8
A program for synchronizing files over a network

View
Remove

[Back to Blueprints](#) > [example-http-server](#) > Edit Blueprint

3 Pending Changes

Commit

Discard Changes

Create Image



example-http-server

Available Components

nodejs

Name: nodejs X Clear All Filters

1 - 5 of 5 < 1 of 1 >

- nodejs**
JavaScript runtime +
- nodejs-devel**
JavaScript runtime - development headers +
- nodejs-docs**
Node.js API documentation +
- nodejs-nodemon**
Simple monitor script for use during development of a node.js app +
- nodejs-packaging**
RPM Macros and Utilities for Node.js Packaging +

Blueprint Components

Name Filter by Name...



Selected Components 6

Dependencies 117

>	<input type="checkbox"/>	httpd Apache HTTP Server	Version 2.4.35	Release 6.el8+2089+57a79027	⋮
>	<input type="checkbox"/>	mod_ssl SSL/TLS module for the Apache HTTP Server	Version 2.4.35	Release 6.el8+2089+57a79027	⋮
>	<input type="checkbox"/>	openssh-server An open source SSH server daemon	Version 7.8p1	Release 3.el8	⋮
>	<input type="checkbox"/>	postgresql PostgreSQL client programs	Version 10.5	Release 1.el8+1546+27ad5f8e	⋮
>	<input type="checkbox"/>	rsync A program for synchronizing files over a network	Version 3.1.3	Release 4.el8	⋮
>	<input type="checkbox"/>	tmux A terminal multiplexer	Version 2.7	Release 1.el8	⋮

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3 Pending Changes

Commit

Discard Changes

Create Image



example-http-server

Available Components

nodejs

Name: nodejs X Clear All Filters

1 - 5 of 5 < 1 of 1 >

- nodejs**
JavaScript runtime +
- nodejs-devel**
JavaScript runtime - development headers +
- nodejs-docs**
Node.js API documentation +
- nodejs-nodemon**
Simple monitor script for use during development of a node.js app +
- nodejs-packaging**
RPM Macros and Utilities for Node.js Packaging +

Component Details

[Back to example-http-server](#)

Add X

nodejs

Component Options

Version * (latest version) ▾

Details

Dependencies 41

JavaScript runtime

Node.js is a platform built on Chrome's JavaScript runtime for easily building fast, scalable network applications. Node.js uses an event-driven, non-blocking I/O model that makes it lightweight and efficient, perfect for data-intensive real-time applications that run across distributed devices.

Type	RPM
Version	10.11.0
Release	2.el8+2021+27085a9b
URL	http://nodejs.org/

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4 Pending Changes

Commit

Discard Changes

Create Image






example-http-server

Available Components

nodejs

Name: nodejs X Clear All Filters

1 - 5 of 5 < 1 of 1 >

-  **nodejs**
JavaScript runtime -
-  **nodejs-devel**
JavaScript runtime - development headers +
-  **nodejs-docs**
Node.js API documentation +
-  **nodejs-nodemon**
Simple monitor script for use during development of a node.js app +
-  **nodejs-packaging**
RPM Macros and Utilities for Node.js Packaging +








Blueprint Components

Name Filter by Name...



Selected Components 7

Dependencies 121

> <input type="checkbox"/>	 httpd Apache HTTP Server	Version 2.4.35	Release 6.el8+2089+57a79027	⋮
> <input type="checkbox"/>	 mod_ssl SSL/TLS module for the Apache HTTP Server	Version 2.4.35	Release 6.el8+2089+57a79027	⋮
> <input type="checkbox"/>	 nodejs JavaScript runtime	Version 10.11.0	Release 2.el8+2021+27085a9b	⋮
> <input type="checkbox"/>	 openssh-server An open source SSH server daemon	Version 7.8p1	Release 3.el8	⋮
> <input type="checkbox"/>	 postgresql PostgreSQL client programs	Version 10.5	Release 1.el8+1546+27ad5f8e	⋮
> <input type="checkbox"/>	 rsync A program for synchronizing files over a network	Version 3.1.3	Release 4.el8	⋮
> <input type="checkbox"/>	 tmux A terminal multiplexer	Version 2.7	Release 1.el8	⋮

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4 Pending Changes

Commit

Discard Changes

Create Image

example-http-server

Available Components

nodejs

Name: nodejs X Clear All Filters

1 - 5 of 5 < 1 of 1 >

**nodejs**

JavaScript runtime

**nodejs-devel**

JavaScript runtime - development headers

**nodejs-docs**

Node.js API documentation

**nodejs-nodemon**Simple monitor script for use during development
of a node.js app**nodejs-packaging**

RPM Macros and Utilities for Node.js Packaging



Blueprint Components

Name Filter by Name...



Active Filters: name: npm X Clear All Filters

Selected Components 0

Dependencies 1

**npm**

Node.js Package Manager

Version 6.4.1

Release 1.10.11.0.2.el8+2021+27085a9b

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4 Pending Changes

Commit

Discard Changes

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example-http-server

Available Components

nodejs

Name: nodejs X Clear All Filters

1 - 5 of 5 < 1

**nodejs**

JavaScript runtime

**nodejs-devel**

JavaScript runtime - development headers

**nodejs-docs**

Node.js API documentation

**nodejs-nodemon**

Simple monitor script for use during development of a node.js app

**nodejs-packaging**

RPM Macros and Utilities for Node.js Packaging

Changes Pending Commit



Only changes to selected components are shown.

Blueprint: example-http-server

Pending Changes (most recent first)

Added	nodejs-*
Removed	php-mysqlnd-7.2.*
Removed	php-7.2.*

Changes made in a previous session ⓘ

Added	postgresql-*
-------	--------------

Close

Commit

**base system**

The skeleton package which defines a simple Red Hat Enterprise Linux system

Version 11

Release 5.el8

**bash**

The GNU Bourne Again shell

Version 4.4.19

Release 6.el8

**brotli**

Lossless compression algorithm

Version 1.0.6

Release 1.el8

**bzip2-libs**

Libraries for applications using bzip2

Version 1.0.6

Release 26.el8



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example-http-server: Blueprint changes are committed. ✕

example-http-server

Available Components

nodejs

Name: nodejs ✕ [Clear All Filters](#)

1 - 5 of 5 < 1 of 1 >

**nodejs**

JavaScript runtime

**nodejs-devel**

JavaScript runtime - development headers

**nodejs-docs**

Node.js API documentation

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Simple monitor script for use during development of a node.js app

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RPM Macros and Utilities for Node.js Packaging

Blueprint Components

Name

Filter by Name...



Selected Components 7

Dependencies 121

**httpd**

Apache HTTP Server

Version 2.4.35

Release 6.el8+2089+57a79027

**mod_ssl**

SSL/TLS module for the Apache HTTP Server

Version 2.4.35

Release 6.el8+2089+57a79027

**nodejs**

JavaScript runtime

Version 10.11.0

Release 2.el8+2021+27085a9b

**openssh-server**

An open source SSH server daemon

Version 7.8p1

Release 3.el8

**postgresql**

PostgreSQL client programs

Version 10.5

Release 1.el8+1546+27ad5f8e

**rsync**

A program for synchronizing files over a network

Version 3.1.3

Release 4.el8

**tmux**

A terminal multiplexer

Version 2.7

Release 1.el8



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Edit Blueprint

Create Image



example-http-server

An example http server with PHP and MySQL support.

Details

Selected Components

Images

Description An example http server with PHP and MySQL support.

Hostname

If no hostname is provided, the hostname will be determined by the OS.

Users

Full name	User name	Server administrator	Password	SSH key	
gary	gary	✓		✓ gary@krustykrab.com	

[Create User Account](#)

[Back to Blueprints](#) > example-http-server

Edit Blueprint

Create Image



example-http-server

An example http server with PHP and MySQL support.

Details

Selected Components

Images

Description An example http server with PHP and MySQL support.

Hostname



Valid characters for hostname are letters from a to z, the digits from 0 to 9, and the hyphen (-). A hostname may not start with a hyphen.

Users

Full name	User name	Server administrator	Password	SSH key	
gary	gary	✓		✓ gary@krustykrab.com	

[Create User Account](#)

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example-http-server

An example http server

Details

Selected Components

Images

Description An example http server

Hostname squidward

Users

Full name

gary

Create User Account

Edit Blueprint

Create Image

Create User Account



The fields marked with * are required.

Full name

SpongeBob SquarePants

* User name

ssquarepants

The user name can only consist of letters from a-z, digits, dots, dashes and underscores.

Role

☐ Server administrator

Password

Confirm password

SSH key

Paste the contents of your public SSH key file here.

Cancel

Create

SSH key

✓ gary@krustykrab.com

[Back to Blueprints](#) > example-http-server

Edit Blueprint

Create Image



example-http-server

An example http server with PHP and MySQL support.

Details

Selected Components

Images

Description An example http server with PHP and MySQL support.

Hostname squidward

Users

Full name	User name	Server administrator	Password	SSH key	
gary	gary	✓		✓ gary@krustykrab.com	
SpongeBob SquarePants	ssquarepants		✓		

[Create User Account](#)

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Edit Blueprint

Create Image

example-http-server

An example http server

Details

Selected Components

Images

Description An example http server

Hostname squidward

Users

Full name

gary

gary

SpongeBob SquarePants

ssquarepants

Create User Account

Create Image

Blueprint

example-http-server

* Image Type

- ✓ Amazon Machine Image Disk (.ami)
- Ext4 File System Image (.img)
- Live Bootable ISO (.iso)
- OpenStack Image (.qcow2)
- Raw Partitioned Disk Image (.img)
- QEMU QCOW2 Image (.qcow2)
- TAR Archive (.tar)
- Azure Disk Image (.vhd)
- VMware Virtual Machine Disk (.vmdk)

SSH key

✓ gary@krustykrab.com

[Back to Blueprints](#) > example-http-server**example-http-server:** Image creation has been added to the queue. ✕

example-http-server

An example http server with PHP and MySQL support.

[Details](#)[Selected Components](#)[Images](#)**Description** An example http server with PHP and MySQL support. **Hostname** squidward **Users**

Full name	User name	Server administrator	Password	SSH key	
gary	gary	✓		✓ gary@krustykrab.com	
SpongeBob SquarePants	ssquarepants		✓		

[Create User Account](#)

[Back to Blueprints](#) > example-http-server

Edit Blueprint

Create Image



example-http-server

An example http server with PHP and MySQL support.

Details

Selected Components

Images

**example-http-server-ver0.0.31-qcow2**
Based on Version 0.0.31Date Created
Wed Apr 24 2019Type
qcow2

Pending

Stop

**example-http-server-ver0.0.23-live-iso**
Based on Version 0.0.23Date Created
Mon Apr 08 2019Type
live-iso

Complete

Download

**example-http-server-ver0.0.2-vmdk**
Based on Version 0.0.2Date Created
Wed Jan 23 2019Type
vmdk

Complete

Download

