



Red Hat Container Development Kit 2.0 Release Notes and Known Issues

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Abstract

Release Notes and Known Issues for Red Hat Container Development Kit.

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CHAPTER 1. RELEASE NOTES

This section documents the most important features of the Red Hat Container Development Kit 2.0 product.



Important

Please, note that the Red Hat Container Development Kit 2.0 product has been released as **Technical Preview**. This impacts the level of support offered by Red Hat. For additional information, please, see [Technology Preview Features Support Scope](#).

1.1. SET UP OPENSIFT ENTERPRISE WITH A SINGLE COMMAND

Red Hat Container Development Kit 2.0 offers a simple way to set up the **OpenShift Enterprise** Platform as a Service (PaaS), which extends the functionality of the **Docker** service and the **Kubernetes** container orchestration tool to provide a powerful and easy-to-use platform for building, deploying, and orchestrating multi-container applications and services.

A Vagrantfile is provided (`cdk/components/rhel/rhel-ose/Vagrantfile` in the Red Hat Developer Tools ZIP file) that automatically provisions an **OpenShift** instance and sets it up for use in the Red Hat CDK Vagrant box, along with all other prerequisites, including the **Docker** service.

1.2. SET UP KUBERNETES WITH A SINGLE COMMAND

Red Hat Container Development Kit 2.0 offers a simple way to set up the **Kubernetes** container orchestration service (both in **master** and **node** modes) using a single command. A Vagrantfile is provided (`cdk/components/rhel/misc/rhel-k8s-singlenode-setup/Vagrantfile` in the Red Hat Developer Tools ZIP file) that provisions the Red Hat CDK Vagrant box to have the **Kubernetes** service and all other prerequisites, including the **Docker** service, ready for use.

1.3. INTERACT WITH THE RED HAT CDK BOX USING TOOLS ON THE HOST

The **vagrant-service-manager** plugin, included in version 1.0.1, provides for a way to configure the Red Hat CDK for different use cases. The plugin also displays information about services running within the Red Hat CDK box, thus providing an interface between Red Hat CDK and the host workstation. Users can utilize familiar tools, such as the Eclipse IDE, in their development environment of choice (Linux, Mac OS X, or Windows) to interact with the container services deployed in the Red Hat CDK box.

1.4. UNIVERSAL, BI-DIRECTIONAL FILE SYNCHRONIZATION

The **vagrant-sshfs** plugin, included in version 1.1.0, uses the SSHFS software to open a file-synchronization channel between the Red Hat CDK box and the host system. The solution works on all supported platforms (Linux, Mac OS X, Windows) and with both supported virtualization providers (KVM/libvirt, VirtualBox), and therefore provides a good alternative to other ways of synchronizing data (NFS, rsync, VirtualBox shared folders).

1.5. AUTOMATIC REGISTRATION OF RED HAT ENTERPRISE LINUX VIRTUAL MACHINES

The **vagrant-registration** plugin, included in version 1.2.1, provides for an easy to way to register the Red Hat CDK Vagrant boxes, which are based on Red Hat Enterprise Linux, during their provisioning. The process can be automated by adding login credentials into a system-wide or box-specific Vagrantfile or by setting respective environment variables (**SUB_USERNAME** and **SUB_PASSWORD**).

CHAPTER 2. KNOWN ISSUES

This section describes issues that users of Red Hat Container Development Kit 2.0 may encounter, as well as possible workarounds for these issues.

2.1. SELINUX BLOCKING THE USE OF `EMPTYDIR` VOLUMES IN KUBERNETES

Running an application using Kubernetes fails when a Kubernetes pod needs to use an `emptyDir` volume because a corresponding SELinux context is not automatically set for `emptyDir`.

2.2. KUBERNETES STATUS NOT SHOWN CORRECTLY BY THE VAGRANT-SERVICE-MANAGER PLUGIN

Due to a bug in the `vagrant-service-manager` plugin, the `vagrant service-manager env` command reports that the Kubernetes service is stopped in the Red Hat CDK box even when it is running. To work around this issue, users can upgrade to the latest version of the `vagrant-service-manager` plugin from rubygems.org, in which the bug has been fixed. To upgrade, run the following command: `vagrant plugin update vagrant-service-manager` or install the newest version by running the following command: `vagrant plugin install vagrant-service-manager`.

2.3. RUNNING ATOMICAPP FAILS WHEN USING `SUDO`

Due to a bug in `Atomic CLI`, the command to run AtomicApp fails when issued with `sudo` as follows: `sudo atomic run <atomicapp-docker-image>`. To work around the problem, use `sudo` with the `-E` option: `sudo -E atomic run <atomicapp-docker-image>`.

2.4. RED HAT CDK VAGRANT BOX DOES NOT HAVE VIRTUALBOX GUEST ADDITIONS PRE-INSTALLED

Virtualbox is a supported virtualization provider for Red Hat CDK, but the `Virtualbox Guest Additions` software, which offers various drivers and applications and is useful for sharing folders between the Vagrant box and the host system, is not pre-installed in the Red Hat CDK box because its licence is not compatible with Red Hat CDK. Users are recommended to use SSHFS provided by the `vagrant-sshfs` plugin to enable Vagrant synchronized folders.

2.5. VAGRANT PLUGINS VAGRANT-REGISTRATION AND VAGRANT-VBGUEST DO NOT WORK TOGETHER

The Red Hat CDK Vagrant box for the Virtualbox virtualization provider does not come with the `Virtualbox Guest Additions` software pre-installed because of a licensing-incompatibility issue. Users who attempt to work around the absence of `Virtualbox Guest Additions` by installing the software using the `vagrant-vbguest` plugin are advised that it is not possible to use both the `vagrant-vbguest` and `vagrant-registartion` plugins together. If you wish to install either one of the plugins, make sure that the other one is not installed.

2.6. WARNING MESSAGE WHEN RUNNING VAGRANT SSH ON MAC OS X

2.6. WARNING MESSAGE WHEN RUNNING VAGRANT SSH ON MAC OS X WITH VIRTUALBOX

When the **vagrant ssh** command is used on Mac OS X to log into the Red Hat CDK Vagrant box, the following warning message is displayed:

```
bash: warning: setlocale: LC_CTYPE: cannot change locale (UTF-8): No such file or directory"
```

The message can be safely disregarded.

2.7. NO SUPPORT FOR NETWORK PROXIES

Internal network proxies, which are used for connecting to the Internet in some networking configurations, are not supported by Red Hat CDK.

2.8. INTERNET CONNECTION REQUIRED FOR RUNNING APPLICATIONS IN OPENSIFT

While it is possible to start the **OpenShift** service in Red Hat CDK when the host system is not connected to the Internet, Internet connection is required for running applications using **OpenShift** because **OpenShift** needs to download required Docker-formatted container images for applications to function.

2.9. DNS SERVICE PROVIDED BY XIP.IO ONLY WORKS WITH AN INTERNET CONNECTION

DNS addressing provided by the external **xip.io** service is unavailable without a working Internet connection.

2.10. STARTING OR RESTARTING OPENSIFT IS TIME CONSUMING

Starting or restarting **OpenShift** takes more time than expected. The reason lies in the way the Red Hat CDK virtual machine is configured. The same problem occurs when running the **vagrant service-manager restart openshift** command or during initialization using the **vagrant up** command. This command may fail with a timeout error, even though the environment is running. It is only the **OpenShift** service that starts slowly.

2.11. CREDENTIALS STORED IN SYSTEM VAGRANTFILE NOT SUPPORTED WHEN USING RHEL-K8S-SINGLENODE-SETUP

The Vagrantfile for the **rhel-k8s-singlenode-setup** configuration does not support credentials stored in the system Vagrantfile. While storing user credentials in the system Vagrantfile works for registering an environment initialized using the **rhel-ose** configuration, for the **rhel-k8s-singlenode-setup** Vagrantfile, the registration plugin asks for credentials interactively. This problem is caused by a bug in the Vagrantfile.

To work around the problem, delete the **config.registration** lines from the Vagrantfile, or copy this part from the **rhel-ose** Vagrantfile.

CHAPTER 3. ADDITIONAL RESOURCES

- ✦ See the [Red Hat CDK Installation Guide](#) for installation instructions for all supported platforms (Linux, Mac OS X, Windows).
- ✦ See the [Red Hat CDK Getting Started Guide](#) for an overview of Red Hat CDK features and for an introduction into the use of the **Docker** service and the **OpenShift Enterprise** platform.