
worknotes Documentation

Release 0.1

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Contents:

Notes related to the Fedora Cloud images

This section contains my worknotes related to the Fedora cloud images.

1.1 Kickstart files

Fedora kickstart files are in a git repository. You can use the following command to clone them.:

```
$ git clone https://git.fedorahosted.org/git/spin-kickstarts.git
```

1.2 Release engineering scripts

Fedora release engineering team has many scripts for their work. These scripts are available at the following git repo.:

```
$ git clone https://git.fedorahosted.org/git/releng
```

1.3 Fedora Cloud builds on Koji

Use [this link](#) to find Fedora Cloud builds on Koji.

1.4 Imagefactory

The cloud images are build using `imagefactory` and `oz`.

I am currently using a Fedora 20 system to do so.

1.4.1 Installation

```
# yum install yum-utils koji-builder strace mock kernel-firmware ntp ntpdate rsyslog oz imagefactory
```

Then start the libvirt service.:

```
# systemctl start libvirtd
```

1.4.2 Building your first image

Next we are going to use imagefactory to build your first image.

Then just use the following command to build the image.:

```
# imagefactory --debug base_image --file-parameter install_script fedora-cloud-base-4d0fed6.ks tdl-x86_64.xml
```

If you are wondering from where you can get those kickstart or tdl files, have a look at [koji](#)

1.4.3 How to build docker images?

For docker images we will have to pass a new parameter to the imagefactory command inside *dobuild.sh*. Add the following to the end of the command in that file.:

```
--parameter offline_icicle true
```

1.4.4 Why the kickstart file used by Fedora koji looks different?

Because before the installation *ksflatten* command creates an unified kickstart file which has all included kickstart files.

For example run this command in the sphin-kickstarts git repo to create a latest kickstart file:

```
$ ksflatten -c fedora-cloud-base.ks -o fedora-cloud-base-$(git rev-parse --short HEAD).ks >& /dev/null
```

1.4.5 Important files

dobuild.sh

This is the shell script to simplify life.

fedora-cloud-base-.ks*

The kickstart file used to do the actual build.

tdl-x86_64.xml

The XML schema required for the imagefactory. The koji imagefactory is a patched package which does not need any **rootpw**, but we do need it here. To learn more about the XML tags, you can view [this guide](#)

Note: You will find different kind of URL(s) used for the koji builds of the same cloud images. Like *http://compose-x86-02.phx2.fedoraproject.org/compose/21_Beta_RC2/21_Beta/Cloud/x86_64/os/* which is actually the local host where the compose run and after all the processes are done and verified, it is synced to a public repo like *http://dl.fedoraproject.org/pub/alt/stage/21_Beta_RC2/Cloud/x86_64/os/*.

1.4.6 Disabling root password

You can configure imagefactory to disable any root password in the template. You have to do it in */etc/imagefactory/imagefactory.conf*, change the value of *tdl_require_root_pw* to 0.

1.5 How to create a qcow2 image?

Like the example below:

```
$ /usr/bin/qemu-img convert -c -f raw -O qcow2 /var/tmp/koji/tasks/8932/7978932/output_image/3f009dd
```

1.6 How to test a koji image in your local computer?

There are many different ways one can run and test the Fedora cloud images built on koji.fedoraproject.org. I am going to talk about a simple script written by Mike Ruckman. First checkout the latest version of the code from github.:

```
$ git clone https://github.com/Rorosha/testCloud.git
```

You will also have to install *libguestfs-tools-c* package using yum.:

```
$ yum install libguestfs-tools-c -y
```

Now inside the directory there is a script called *testCloud.py*, we will use this along with an URL to a cloud image.:

```
$ ./testCloud.py --ram 2048 --no-graphic https://kojipkgs.fedoraproject.org//work/tasks/8933/7978933
```

As you can see I gave 2GB ram to that test instance. After this you can simply login to the instance using ssh.:

```
$ ssh -F ./ssh_config testCloud
```

The default password is **passw0rd**.

1.7 List of current tests for Fedora Cloud image

This [wiki page](#) contains all the latest tests to run on Fedora Cloud images.

1.8 How to run Kushal's personal cloud tests?

I have a set of tests for the cloud images, they are available in *cloudtests* directory. First start an instance locally using *testCloud* as shown above or create an instance in a remote Openstack/Eucalyptus/AWS account. To run the tests in the local system just give the following command:

```
$ ./runlocal.sh
```

For the remote systems you have to provide the instance IP like in the following example.:

```
$ ./runremote.sh 192.168.1.2
```

Note: We need *fabric* to run these tests. You can install it using yum. `# yum install fabric -y`

All the random questions that comes in my mind or people ask me :)

2.1 How can I contribute to the Cloud SIG?

There are many ways you can help. The easiest way to start is to test the latest cloud images on your local computer. You can use the testCloud application to start an instance in your local system. You can also write your experience in your blog, write the tips which can save time for others. The Cloud SIG meets every week in #fedora-meeting-1 on freenode at 7pm UTC.

2.2 How to move between terminals in text mode installation using Anaconda?

Ctrl + B, 2

2.3 Why there is a separate compose tree for Cloud?

Not very clear but someone from community or rel-eng thought that it is a good idea. Of course this might help in future. The tree is generated from [this](#) kickstart file.

2.4 From where I can learn more about Kickstart files?

Read [this](#) wiki page.

2.5 How to map remote VNC ports to the localhost?

You can do it with help from *ssh* tool. The following command maps three remote ports in the localhost, which you can use to view in a vnc viewer. The local ports are 5800, 5801, 5802

```
$ ssh root@your_remote_host -L 5800:localhost:5900 -L 5801:localhost:5901 -L 5802:localhost:5902 -L 5
```

2.6 How we generate Fedora Docker images?

From F21 we are using Fedora Koji builds for Docker. lsm5 takes the .tar.gz image, extracts the rootfs and compress it into a .xz file. Later that image is published in the Docker hub using github.

2.7 How to convert qcow3 images to qcow2?

Right now (at least in July, 2015) koji is building version 3 of the qcow2 images. To use them into older systems, you have to convert them into qcow2 images. You can do that with the following command:

```
# qemu-img amend -f qcow2 -o compat=0.10 Fedora-Cloud-Base-22-20150521.x86_64.qcow2
```

You can learn more in the corresponding [bug](#).

This contains random commands I find on internet or things I forget

3.1 Comparing files

```
comm -13 <(rpm -qla | sort) <(find / -type f | sort)
```

3.2 Checking for updates

- dnf check-update
- yum list updates

3.3 Finding rpms with signature

```
rpm -qa -qf '%{NAME}-%{VERSION}-%{RELEASE} %{SIGPGP:pgpsig} %{SIGGPG:pgpsig}n'
```

Indices and tables

- `genindex`
- `modindex`
- `search`