

openQA Project - action #77905

coordination # 80142 (Blocked): [saga][epic] Scale out: Redundant/load-balancing deployments of openQA, easy containers, containers on kubernetes

coordination # 77698 (New): [epic] synchronous qemu based system level test in pull request CI runs, e.g. standalone isotovideo or openQA tests

CI pipeline proof-of-concept running isotovideo

2020-11-15 07:59 - okurz

Status:	Resolved	Start date:	2020-11-15
Priority:	Normal	Due date:	
Assignee:	okurz	% Done:	0%
Category:	Feature requests	Estimated time:	0.00 hour
Target version:	Ready		
Difficulty:			

Description

Acceptance criteria

- **AC1:** A proof-of-concept CI configuration and run showing how isotovideo executes tests exists

Suggestions

- **DONE:** Install and run isotovideo for os-autoinst-distri-example -> see <https://github.com/os-autoinst/os-autoinst-distri-example/pull/4>
- **DONE:** Optional: Containerize isotovideo, e.g. based on <https://build.opensuse.org/package/show/home:okurz:container/isotovideo>, to make startup easier and faster in repeated CI runs
 - **DONE** created <https://build.opensuse.org/package/show/home:okurz:container/isotovideo-qemu-x86> and <https://build.opensuse.org/package/show/home:okurz:container/isotovideo-qemu-kvm>
 - **DONE** @waitfor <https://github.com/os-autoinst/os-autoinst/pull/1567>
 - **DONE** then create package in build.opensuse.org/project/show/devel:openQA with `_service` that extracts the Dockerfile from os-autoinst and builds and publishes images
 - **DONE** use that image in <https://github.com/os-autoinst/os-autoinst-distri-example/pull/4>
- **DONE** Add to documentation, e.g. <https://github.com/os-autoinst/os-autoinst/blob/master/README.asciidoc> in <https://github.com/os-autoinst/os-autoinst/pull/1563>
- Optional: Try in a CI that supports nested virt, e.g. travis CI in parallel to github actions. Then likely <https://build.opensuse.org/package/show/home:okurz:container/isotovideo-qemu-kvm> is a better selection -> not done for now as travis CI is suffering from very long queue times due to their recent travis-ci.org->travis-ci.com migration going on and changes in the plans they offer

History

#1 - 2020-11-15 09:43 - okurz

- Status changed from Workable to In Progress

- Assignee set to okurz

I have https://build.opensuse.org/package/view_file/home:okurz:container/isotovideo/Dockerfile?expand=1 since about a year. Let's see if I can streamline that for upstream inclusion and use it in github actions.

#2 - 2020-11-15 10:10 - okurz

As a general draft including multiple changes: [gh#os-autoinst/os-autoinst#1563](https://github.com/os-autoinst/os-autoinst/pull/1563)

But for easier reviewing I created specific pull requests for smaller, not inter-dependant changes, e.g.:

- Use Test::Most instead of Test::More for convenience [gh#os-autoinst/os-autoinst#1564](https://github.com/os-autoinst/os-autoinst/pull/1564) (merged)
- Cover all test output in t/13-osutils and remove unneeded debug messages [gh#os-autoinst/os-autoinst#1565](https://github.com/os-autoinst/os-autoinst/pull/1565) (merged)
- README: Prefer user-centric documentation over developer-centric instructions [gh#os-autoinst/os-autoinst#1566](https://github.com/os-autoinst/os-autoinst/pull/1566) (merged)
- docker: Add Dockerfile for isotovideo+qemu [gh#os-autoinst/os-autoinst#1567](https://github.com/os-autoinst/os-autoinst/pull/1567)

Now I wonder what is the best approach for testing. I would like to have a testing solution that is callable by every developer locally and also in CI. I tried with a simple perl test module where I call something like `qx{podman build ...}` which fails with errors like:

```

# Failed test 'container could be built successfully'
# at t/30-container.t line 36.
# got: '125'
# expected: '0'
# Output: STEP 1: FROM registry.opensuse.org/opensuse/tumbleweed
# Getting image source signatures
# Copying blob sha256:7fce653214d4500372a2df7b523918146b0f8e61e62613feaab18a46393e96e1
# Copying config sha256:2eac6045a15c8023b0a89aa585850c17ba02bae23185557f6edc0ac57939c316
# Writing manifest to image destination
# Storing signatures
# time="2020-11-15T14:45:15+01:00" level=error msg="Error while applying layer: ApplyLayer exit status 1 stdout: stderr: there might not be enough IDs available in the namespace (requested 0:15 for /etc/shadow): lchown /etc/shadow: invalid argument"
# Error: error creating build container: Error committing the finished image: error adding layer with blob "sha256:7fce653214d4500372a2df7b523918146b0f8e61e62613feaab18a46393e96e1": ApplyLayer exit status 1 stdout: stderr: there might not be enough IDs available in the namespace (requested 0:15 for /etc/shadow): lchown /etc/shadow: invalid argument

```

which I need to understand first or not follow up with at all as it can be just enough to build-test the container within OBS.

EDIT: I understood the error which I could reproduce with `perl -e 'qx{podman build -f docker/isotovideo/Dockerfile.qemu .}'`. Problem is my alias `podman='sudo podman'` because rootless podman does not work out of the box, at least not in my env. Trying with docker.

Further ideas what I found on the go:

- Use <https://github.com/wagoodman/dive> like `CI=true dive <your-image>` to check image
- Use dgoss <https://medium.com/@aelsabbahy/tutorial-how-to-test-your-docker-image-in-half-a-second-bbd13e06a4a9> for having a YAML based expectation document to test against our containers

I created <https://github.com/os-autoinst/os-autoinst-distri-example/pull/4> with a github actions definition file using a temporary OBS project <https://build.opensuse.org/package/show/home:okurz:container/isotovideo-qemu>

https://github.com/okurz/os-autoinst-distri-example/runs/1402935643?check_suite_focus=true shows the results when running with `qemu_no_kvm=1` as github actions do not provide `/dev/kvm`, so no nested virt. I could define an example in travis CI in parallel as well.

Changed the Dockerfile to do `RUN zypper -n in os-autoinst qemu-x86 qemu-tools` instead. Probably I should be explicit and define a `"isotovideo:qemu-x86"` container and one `"isotovideo:qemu-kvm"`. Have one

<https://build.opensuse.org/package/show/home:okurz:container/isotovideo-qemu-kvm> now and <https://build.opensuse.org/package/show/home:okurz:container/isotovideo-qemu-x86>

<https://github.com/os-autoinst/os-autoinst-distri-example/pull/4> is ready now with a correct expected successful isotovideo run in

https://github.com/okurz/os-autoinst-distri-example/runs/1403357323?check_suite_focus=true

where "successful" means a completed test run with result "failed" as the example repo has no needles which is left as the training step to complete for beginners using the example repo.

So I could update <https://github.com/os-autoinst/os-autoinst/pull/1567>

#3 - 2020-11-15 20:15 - okurz

- Description updated

#4 - 2020-11-18 09:49 - okurz

- Status changed from In Progress to Feedback

waiting for review

#5 - 2020-11-26 12:53 - okurz

- Status changed from Feedback to In Progress

After a reminder I could motivate team colleagues to followup with the pending review :)

<https://github.com/os-autoinst/os-autoinst/pull/1567> is merged and also another idea was mentioned and followed up with <https://github.com/os-autoinst/os-autoinst/pull/1573> to add specific subpackages.

<https://github.com/os-autoinst/os-autoinst-distri-example/pull/4> was merged and <https://github.com/os-autoinst/os-autoinst-distri-example/actions/runs/385231860> shows the successful run.

- Generate the container within OBS, e.g. checkout Dockerfile from VCS

EDIT: Did `osc copypac devel:openQA os-autoinst_dev devel:openQA isotovideo-qemu-x86` and created the file `_service` with content:

```

<services>
<service name="download_url">

```

```
<param name="protocol">https</param>
<param name="host">raw.githubusercontent.com</param>
<param name="path">/os-autoinst/os-autoinst/master/docker/isotovideo/Dockerfile.qemu-x86</param>
<param name="filename">Dockerfile</param>
</service>
</services>
```

I realized that this builds against "containers15.2" but I wanted to use Tumbleweed as base. <https://build.opensuse.org/projects/devel:openQA/meta> had "containers" but referencing openSUSE Leap 15.1. I think we don't need that anymore. I switched openSUSE:Containers:Leap:15.1 to "openSUSE:Containers:Tumbleweed". I also removed:

```
<disable repository="containers"/>
```

and more old cruft, e.g. for SLE12 which mkittler already removed elsewhere. Then I still needed to enable the container build for Tumbleweed in <https://build.opensuse.org/package/meta/devel:openQA/isotovideo-qemu-x86>

- Update the Dockerfile to use the new convenience packages instead

Created <https://github.com/os-autoinst/os-autoinst/pull/1575> to add the qemu-kvm as well

- Update <https://github.com/os-autoinst/os-autoinst/pull/1563>
- Reference the container in os-autoinst README

Includes the updated OBS path

- Build qemu-kvm as well and document

<https://github.com/os-autoinst/os-autoinst/pull/1575>

- Review and consider update of os-autoinst-distri-example

Done with <https://github.com/os-autoinst/os-autoinst-distri-example/pull/5>

- *TODO*: @waitfor <https://github.com/os-autoinst/os-autoinst/pull/1575>
- *TODO*: @waitfor <https://github.com/os-autoinst/os-autoinst-distri-example/pull/5>
- *TODO*: Create post on opensuse-factory@lists.opensuse.org, link to post on openqa@suse.de, invite for workshop

#6 - 2020-11-26 14:21 - okurz

waiting for https://build.opensuse.org/package/live_build_log/devel:openQA/isotovideo-qemu-x86/containers/x86_64 and it being published on registry.opensuse.org

#7 - 2020-11-26 14:21 - okurz

- Status changed from *In Progress* to *Feedback*

#8 - 2020-11-27 20:05 - okurz

- Description updated

- Status changed from *Feedback* to *Resolved*

- <https://github.com/os-autoinst/os-autoinst/pull/1575> is merged, created <https://build.opensuse.org/package/show/devel:openQA/isotovideo-qemu-kvm> which we already reference in <https://github.com/os-autoinst/os-autoinst#getting-started>

<https://build.opensuse.org/package/show/devel:openQA/isotovideo-qemu-kvm> is currently "unresolvable" because likely we need to wait for the new version of os-autoinst to be published as part of a new snapshot of openSUSE:Factory

- <https://github.com/os-autoinst/os-autoinst-distri-example/pull/5> is merged
- Create post on opensuse-factory@lists.opensuse.org, link to post on openqa@suse.de, invite for workshop

Wrote to opensuse-factory@opensuse.org with

<https://lists.opensuse.org/archives/list/factory@lists.opensuse.org/thread/X6P2GO4REOXIKTQC6VI2PXGTJTDXCA4D/>, referenced on openqa@suse.de, posted on <https://one.suse.com/content/perma?id=47028> and in <https://chat.suse.de/channel/testing?msg=kSCcZodacdfnCx4HZ>