

## Pulp - Story #3943

Issue # 3981 (MODIFIED): Switch Pulp3 settings to Dynaconf

### As a user, I can configure Pulp using environment variables

08/28/2018 10:30 PM - bmbouter

<b>Status:</b>	MODIFIED	<b>Start date:</b>	
<b>Priority:</b>	Normal	<b>Due date:</b>	
<b>Assignee:</b>	dkliban@redhat.com	<b>% Done:</b>	100%
<b>Category:</b>		<b>Estimated time:</b>	0:00 hour
<b>Sprint/Milestone:</b>	3.0	<b>QA Contact:</b>	
<b>Platform Release:</b>		<b>Complexity:</b>	
<b>Blocks Release:</b>		<b>Smash Test:</b>	
<b>Backwards Incompatible:</b>	No	<b>Verified:</b>	No
<b>Groomed:</b>	No	<b>Verification Required:</b>	No
<b>Sprint Candidate:</b>	No	<b>Sprint:</b>	
<b>Tags:</b>			

#### Description

### Problem Statement

While trying to get Pulp3 running on Openshift I ran into an issue where I needed to set a setting in the settings.yaml file from an environment variable. For example the IP of the postgresql instance is only known to openshift and available via an environment variable.

This is a blocker on deploying Pulp3 into Openshift.

### Solution

Make our settings file a python module instead with the config available at as a module attribute named 'PULP\_CONFIG', e.g.

```
$ cat settings.py
```

```
# get lots of data from ENVIRONMENT variables
PULP_SETTINGS = {} # This would be the toplevel dictionary that would overwrite _DEFAULT_PULP_SETTINGS
# _DEFAULT_PULP_SETTINGS is here: https://github.com/pulp/pulp/blob/master/pulpcore/pulpcore/app/settings.py#L163
```

#### How will the conf file be imported?

Same way as today, first an environment variable is checked which contains a full path to the python module. If that environment variable isn't set it defaults to look to /etc/pulp/settings.py

The only change is /etc/pulp/server.yaml to /etc/pulp/settings.py as the default location accessed.

**What happens if Pulp finds no settings file or no PULP\_SETTINGS attribute in there. It has to fail because Pulp requires the settings file to read the value of SECRET\_KEY which we can never ship.**

#### Associated revisions

Revision e1fcdda1 - 09/25/2018 12:28 AM - Bruno Rocha

Problem: Pulp can't be configured using environment variables

Solution: use dynaconf to manage all of Pulp configuration settings

This patch also adds pulpcore.rqconfig module that is dynamically generated from the Django settings generated by dynaconf. The rq workers use this module for their configuration.

The default location of the config file is now at ``/etc/pulp/settings.py``. Pulp can operate without by relying on environment variables.

closes: #3981

<https://pulp.plan.io/issues/3981>

closes: #3879

<https://pulp.plan.io/issues/3879>

closes: #3980

<https://pulp.plan.io/issues/3980>

closes #3618

<https://pulp.plan.io/issues/3618>

closes: #3943

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## History

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### #1 - 08/28/2018 10:36 PM - bmbouter

- Description updated

### #2 - 08/28/2018 10:38 PM - bmbouter

- Description updated

### #3 - 08/29/2018 12:37 AM - mhrivnak

Most services that run on kubernetes try to not require a config file at all, or at least make it optional. They'll accept settings both as command-line arguments and as environment variables, with the command-line args usually winning in case both are used. Here are a couple of options that would be reasonable and fit convention.

1. Somewhere pulp is parsing a config file and storing the values it finds in a structure that gets used in code. That point of parsing is a reasonable place to also look for an environment variable and let it override any setting found in the file. Here is a popular go library that takes such an approach, which may be interesting as an example: <https://github.com/spf13/viper>
2. Run a small entrypoint script in your container that reads environment variables and uses them to create the yaml file on the spot, then exec pulp's process. Such scripts are very common for doing environmental setup of that variety.
3. Store the whole config file in a kubernetes Secret, mount it into the pod as a file, and symlink from the path where Pulp expects it to be found to

wherever you mounted it. One advantage here is that you can make just one secret and mount it into all the pods. That's the approach I took here: <https://github.com/mhrivnak/pulp-k8s>

Hopefully that's helpful. Feel free to ping me if you'd like to chat more about any of it.

**#4 - 08/31/2018 05:07 PM - daviddavis**

- *Tracker changed from Issue to Story*
- *Subject changed from Cannot drive conf file from environment variables to As a user, I can configure Pulp using environment variables*
- *% Done set to 0*

**#5 - 09/06/2018 06:18 PM - bmbouter**

- *Parent task set to #3981*

**#6 - 09/06/2018 06:19 PM - bmbouter**

For my near-term needs I used a bash script to read environment variables and write the necessary yaml config. For the future I think switching to a Python settings file would resolve several issues including this one.

**#7 - 09/14/2018 03:35 PM - amacdona@redhat.com**

- *Sprint set to Sprint 43*

**#8 - 09/21/2018 05:52 PM - bmbouter**

- *Sprint deleted (Sprint 43)*

This will be resolved by the epic 3981.

**#9 - 09/24/2018 06:46 PM - dkliban@redhat.com**

- *Status changed from NEW to POST*
- *Assignee set to dkliban@redhat.com*

<https://github.com/pulp/pulp/pull/3663>

**#10 - 09/25/2018 07:32 PM - Anonymous**

- *Status changed from POST to MODIFIED*
- *% Done changed from 0 to 100*

Applied in changeset [pulp1fcd1d56f388bc8daba20f13d6a25217f5c25](#).

**#11 - 04/25/2019 06:45 PM - daviddavis**

- *Sprint/Milestone set to 3.0*

**#12 - 04/26/2019 10:34 PM - bmbouter**

- *Tags deleted (Pulp 3)*