


Pharo Launcher Command Line



Why Pharo Launcher command line?

- Some pharoers prefer to use a UI 
- Some don't! They want to use the keyboard.
- Faster, scriptable



Core contributors



Axel Marlard



David Bajger



Christophe Demarey

Support (clap)



Damien Pollet

API

noun - verb oriented

- More smalltalkish (object receiving message)
- Less complex on 1st level (launcher help prints less commands)
- Documentation:
<https://pharo-project.github.io/pharo-launcher/commands-cmd-line>
- Examples:

```
$ pharo-launcher vm list  
$ pharo-launcher image create fromTemplate "myImage"  
$ pharo-launcher image process list  
$ pharo-launcher template categories
```

Packaging



- Pharo Launcher CLI included in std Pharo Launcher app
- In future, could be a standalone app if built on top of a minimal image

```
[/private/tmp/b> ls ./PharoLauncher.app/Contents/MacOS
```

#	name	type	size	modified
0	PharoLauncher.app/Contents/MacOS/Pharo	file	12.8 KiB	2 months ago
1	PharoLauncher.app/Contents/MacOS/Plugins	dir	1.6 KiB	2 months ago
2	PharoLauncher.app/Contents/MacOS/pharo-launcher	file	1.1 KiB	18 minutes ago

Pharo Launcher

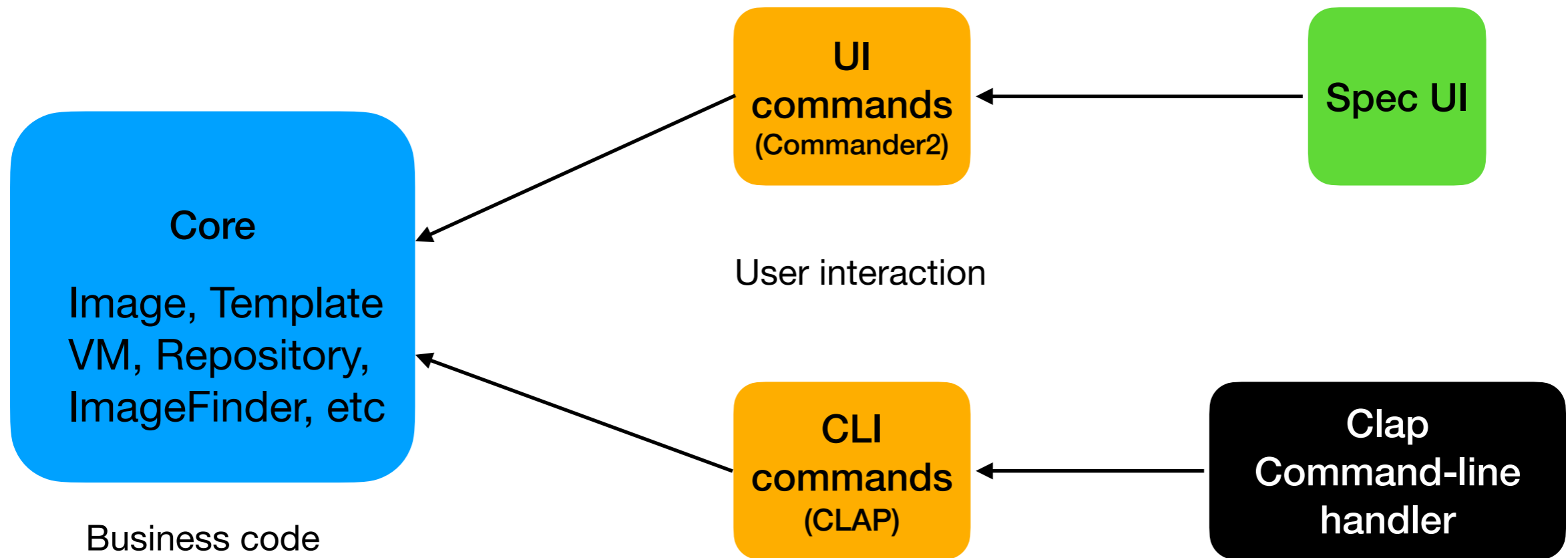
Pharo Launcher CLI

Functionalities



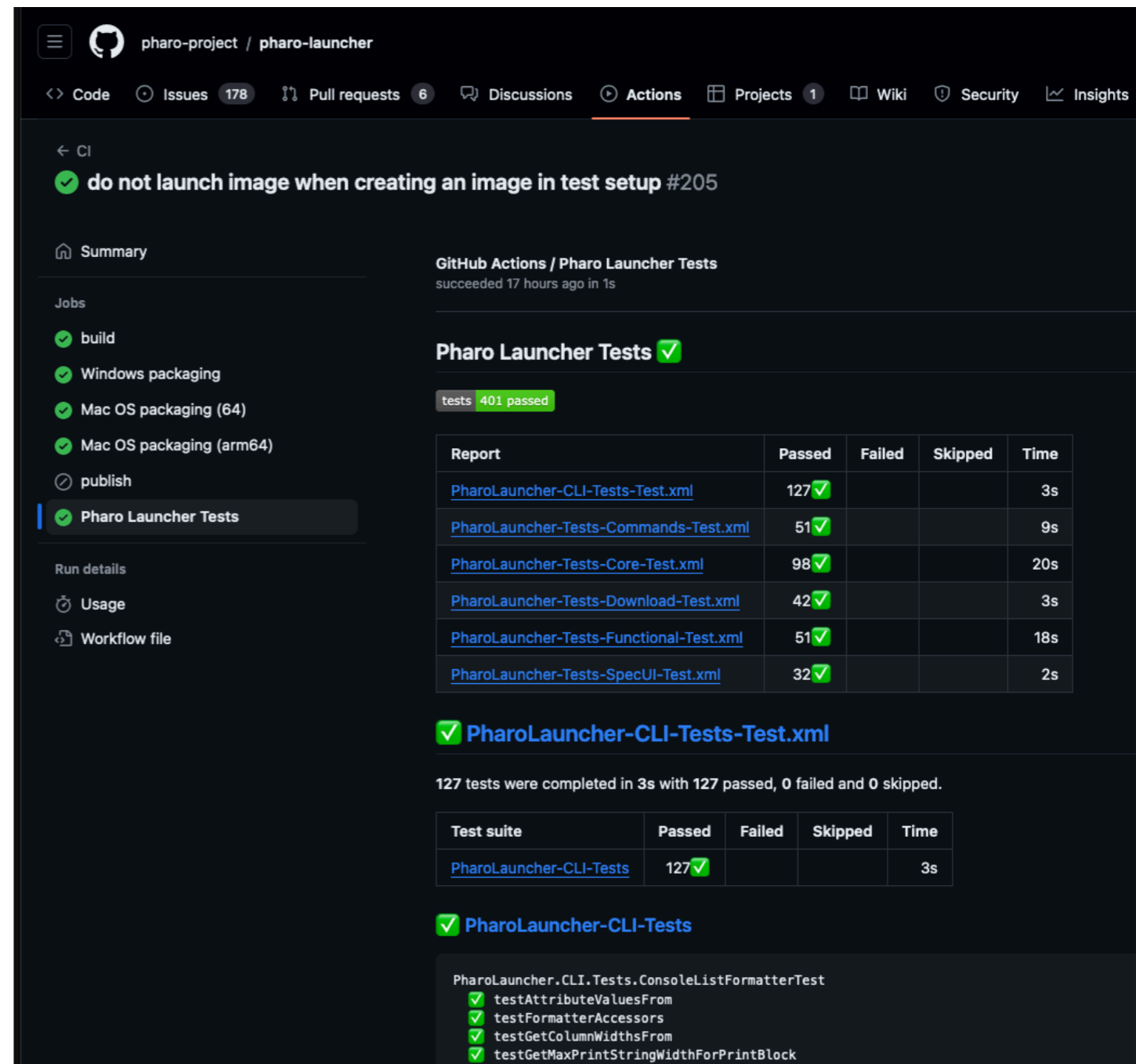
- Control Pharo images and its VMs via command line interface (programmatically)
- create, list, update, delete, execute, launch, package Pharo images
- Update, list, delete VMs
- List and update templates and categories
- List processes

Big picture



Testing

- Each CLI command has its own tests
- CLAP activation from image with arguments
- Some black-box testing with <https://github.com/kward/shunit2>
- GitHub actions with test report



The screenshot shows the GitHub Actions interface for the 'pharo-launcher' repository. The workflow 'do not launch image when creating an image in test setup #205' is shown as successful. The 'Pharo Launcher Tests' job is highlighted, showing a summary of 401 passed tests. A detailed table lists the test reports and their results:

Report	Passed	Failed	Skipped	Time
PharoLauncher-CLI-Tests-Test.xml	127 ✓			3s
PharoLauncher-Tests-Commands-Test.xml	51 ✓			9s
PharoLauncher-Tests-Core-Test.xml	98 ✓			20s
PharoLauncher-Tests-Download-Test.xml	42 ✓			3s
PharoLauncher-Tests-Functional-Test.xml	51 ✓			18s
PharoLauncher-Tests-SpecUI-Test.xml	32 ✓			2s

Below the table, the 'PharoLauncher-CLI-Tests-Test.xml' report is expanded, showing 127 tests completed in 3s with 127 passed, 0 failed, and 0 skipped. A sub-table shows the results for this specific test suite:

Test suite	Passed	Failed	Skipped	Time
PharoLauncher-CLI-Tests	127 ✓			3s

The bottom of the screenshot shows the start of the test output for 'PharoLauncher.CLI.Tests.ConsoleListFormatterTest', listing several test cases that passed:

- ✓ testAttributeValuesFrom
- ✓ testFormatterAccessors
- ✓ testGetColumnWidthsFrom
- ✓ testGetMaxPrintStringWidthForPrintBlock

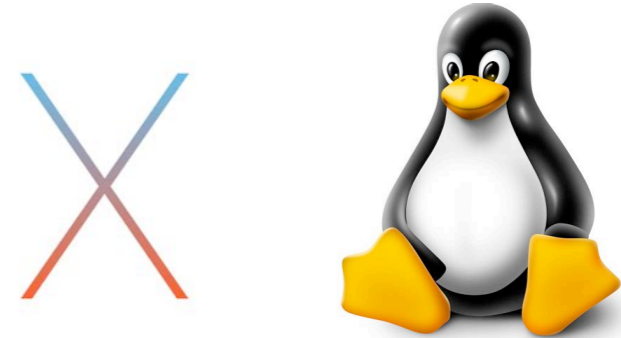
Hands-on



Installation

1. Download PharoLauncher 3.2

<https://files.pharo.org/pharo-launcher/3.2/>



2. Install it where you want

3. Create alias



```
$ alias pharo-launcher='/Applications/PharoLauncher.app/Contents/Resources/pharo-launcher'
```

```
$ alias pharo-launcher='/opt/pharo-launcher-3.2/pharo-launcher'
```

4. Check if installation is ok

```
$ pharo-launcher --version  
3.2
```

Listing



Hint: pharo-launcher <noun> list

brief mode

row mode

- List Pharo images

```
$ pharo-launcher image list
```

- List Pharo images including a given string in the image name

```
$ pharo-launcher image list --nameFilter Launcher
```

- List available VMs on disk

```
$ pharo-launcher vm list
```

Listing



- List available templates in default category (Official distribution)

```
$ pharo-launcher template list
```

- List template categories

```
$ pharo-launcher template categories
```

- List available templates in 'Deprecated distributions' category

```
$ pharo-launcher template list --templateCategory 'Deprecated distributions'
```

Build an image



Build a stable image

```
$ pharo-launcher image create newImage
```

Build a dev image

```
$ pharo-launcher image create --templateName 'Pharo 13.0 - 64bit  
(development version, latest)' newImage
```

```
$ pharo-launcher image create --templateName pharo13 newImage
```

```
$ pharo-launcher image create --dev newImage
```

Build a Pharo 8 image

```
$ pharo-launcher image create --templateCategory 'Deprecated  
distributions' --templateName 'Pharo 8.0 - 64bit' new80Image
```

Build an image (2)



Build a Moose image

```
$ pharo-launcher image create --templateName 'Moose Suite 10  
(stable)' newMooseImage
```

Build a stable image with loading of pharo-pkg/pakbot baseline

```
$ pharo-launcher image create fromRepo pharo-pkg/pakbot  
--newImageName test-from-repo
```

CLI loves Pharo integrators



Build an image from a Pull Request number !

```
$ pharo-launcher image create fromPR 16852
```

Uses the artifact produced by the Jenkins server. It has to be built and still available!

<https://github.com/pharo-project/pharo/pull/16852/files>

CLI loves Pharo integrators



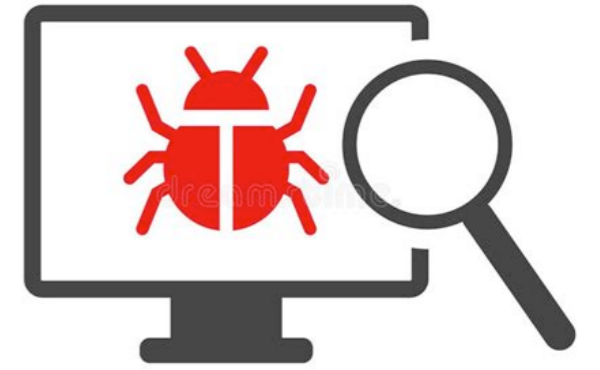
Build an image from a Build number !

```
$ pharo-launcher image create fromBuild 112
```

Uses the artifact from Pharo file server !

Bisection

Find introduction of a problem



Bisect, download and run images for you !

```
$ pharo-launcher image bisect
Collecting Pharo images build numbers ...
What is the first known faulty image (build number)? [122]
What is the last known correct image (build number)? [3] 51

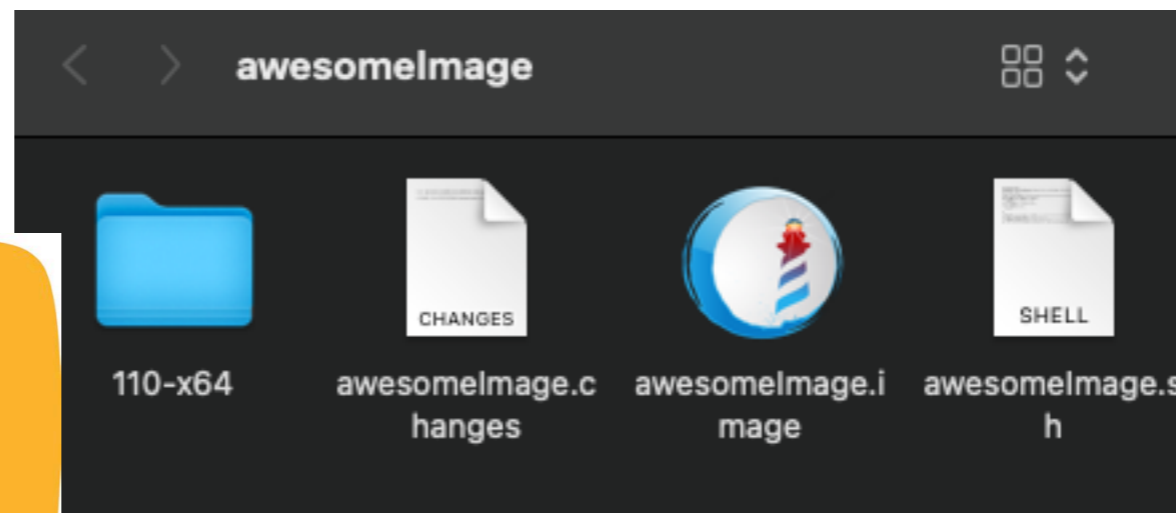
Creating the local Pharo image based on template: Pharo13.0-
SNAPSHOT.build.85.sha.2c147f6.arch.64bit.
Does Pharo image build #85 have a correct behavior? [y|n] y

Creating the local Pharo image based on template: Pharo13.0-
SNAPSHOT.build.102.sha.b446f7e.arch.64bit.
```

Package and share an image

Will produce a zip file containing the image, the changes file, the VM and a small script to easily run the image

```
$ pharo-launcher image package --zip awesomeImage
```



Other commands

Delete an image

```
$ pharo-launcher image delete myImage
```

Update a VM

```
$ pharo-launcher vm update 120-x64
```

Get information on an image

```
$ pharo-launcher image info myImage
```

Recreate an image

```
$ pharo-launcher image recreate myImage
```

List Pharo processes

```
$ pharo-launcher process list
```

Scriptable



Output result of a command in STON format

```
$ pharo-launcher image list --ston > results.ston
```

Then you can use the result in Pharo:

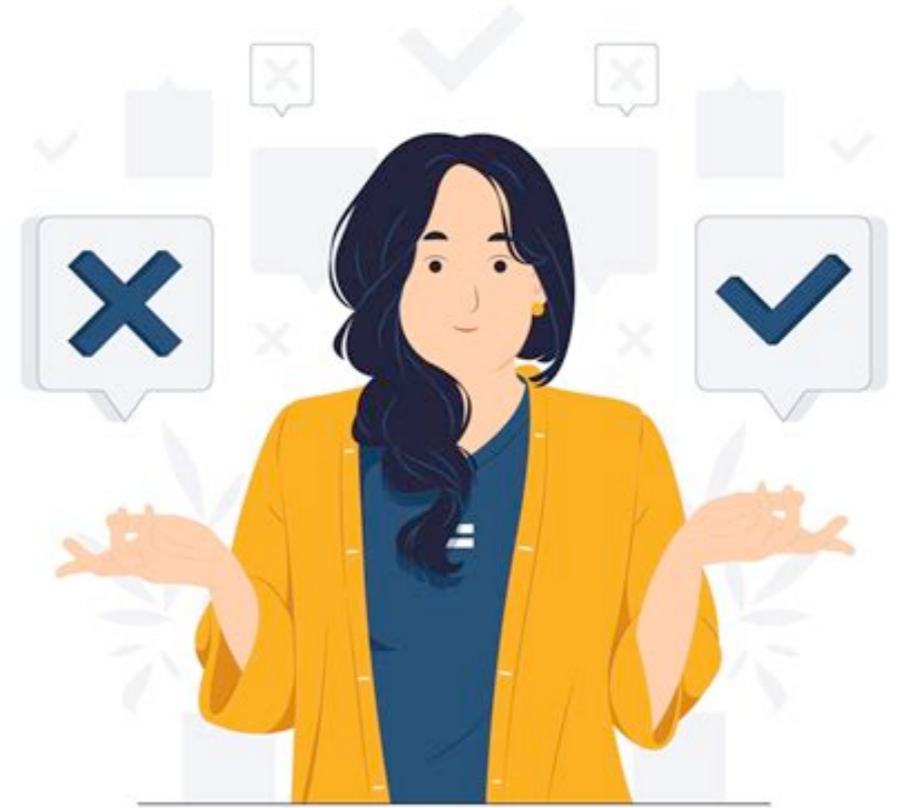
```
(STONReader new  
  acceptUnknownClasses: true;  
  on: ('./results.ston' asFileReference) readStream;  
  yourself) next inspect
```

Cannot choose ?

Cannot choose between
Pharo Launcher UI
or command-line?

No need to choose

Both versions included in Pharo Launcher distribution!



What's next?

- Enhance clap
 - manage basic types (string, number, boolean) + validation
 - mandatory positional + validation
 - better retrieval of options when subcommands and options at different levels
- Unify PharoLauncherCLIModel and PharoLauncherApplication
- ??



Pharo Launcher command-line



```
[~> pharo-launcher image list --nameFilter Launcher
# Name Architecture Pharo version Last modified
-----
1 Pharo Launcher - mac os menu asObjc 64 110 2024-05-30 08:24:14
2 Pharo Launcher - 2024-03-22 64 110 2024-04-15 16:29:19
3 Pharo Launcher - mac os menu old 64 110 2024-04-15 14:38:31
4 Pharo Launcher 2024-02-06 64 110 2024-03-25 15:12:16
5 Pharo 11.0 - Launcher CLI remove image version guess 64 110 2024-02-06 09:47:59
6 Launcher-616-PR 64 110 2024-02-02 17:35:36
7 Pharo Launcher CLI 2022-08-29 64 110 2023-11-15 14:35:12
8 Pharo Launcher GTK 64 110 2023-08-31 00:07:24
9 Pharo Launcher - 2023-08-21 64 110 2023-08-25 23:01:33
10 Pharo Launcher - dev 64 110 2023-08-21 14:16:51
11 Pharo Launcher Smalltalkhub - 6.1 - 32bit (stable) - 2018-11-30 32 61 2020-06-29 17:25:39
12 Pharo Launcher - demo spec2 pharodays 2019 64 70 2019-08-26 10:56:40
[~> pharo-launcher vm list
# Is valid Name Last update Download URL
-----
1 Yes 110-x86 2024-04-15 10:11:00 https://files.pharo.org/get-files/110/pharo-vm-Darwin-arm64-stable.zip
2 Yes 120-x64 2023-11-20 14:01:58 https://files.pharo.org/get-files/120/pharo-vm-Darwin-arm64-stable.zip
3 Yes 50-x86 2016-10-10 11:33:51 https://files.pharo.org/get-files/50/pharo-mac-stable.zip
4 Yes 70-x86 2019-01-05 20:14:39 https://files.pharo.org/get-files/70/pharo-mac-stable.zip
5 Yes 80-x64 2020-02-12 13:47:14 https://files.pharo.org/get-files/80/pharo64-mac-stable.zip
6 Yes 110-x64 2024-04-15 10:11:00 https://files.pharo.org/get-files/110/pharo-vm-Darwin-arm64-stable.zip
7 Yes 20-x86 2016-10-07 16:33:50 https://files.pharo.org/get-files/20/pharo-mac-stable.zip
8 Yes 130-x64 2024-04-15 10:11:00 https://files.pharo.org/get-files/130/pharo-vm-Darwin-arm64-stable.zip
9 Yes 11-x64 2016-10-07 16:33:50 https://files.pharo.org/get-files/11/pharo-mac-stable.zip
10 Yes 80-x64-headless 2019-07-03 15:29:14 https://files.pharo.org/get-files/80/pharo-mac-stable.zip
11 Yes 60-x86 2017-05-31 07:15:41 https://files.pharo.org/get-files/60/pharo-mac-stable.zip
12 Yes 70-x64 2019-01-05 20:14:53 https://files.pharo.org/get-files/70/pharo64-mac-stable.zip
13 Yes 100-x64 2023-03-30 13:06:34 https://files.pharo.org/get-files/100/pharo-vm-Darwin-arm64-stable.zip
[~> pharo-launcher template list
# Template name URL
-----
1 Pharo 13.0 - 64bit (development version, latest) https://files.pharo.org/image/130/latest-64.zip
*2 Pharo 12.0 - 64bit (stable) https://files.pharo.org/image/120/latest-64.zip
3 Pharo 11.0 - 64bit (old stable) https://files.pharo.org/image/110/latest-64.zip
4 Moose Suite 11 (development) https://github.com/moosetechnology ... s/Moose11-development-Pharo64-11.zip
5 Moose Suite 10 (stable) https://github.com/moosetechnology ... 10.x.x/Moose10-stable-Pharo64-10.zip
6 Moose Suite 9.0 (old stable) https://github.com/moosetechnology ... /v9.x.x/Moose9-stable-Pharo64-10.zip
[~> pharo-launcher template categories
# Template category
-----
1 Templates
2 Pharo Mooc
*3 Official distributions
4 Deprecated distributions
5 Pharo 12.0 (stable)
```

