

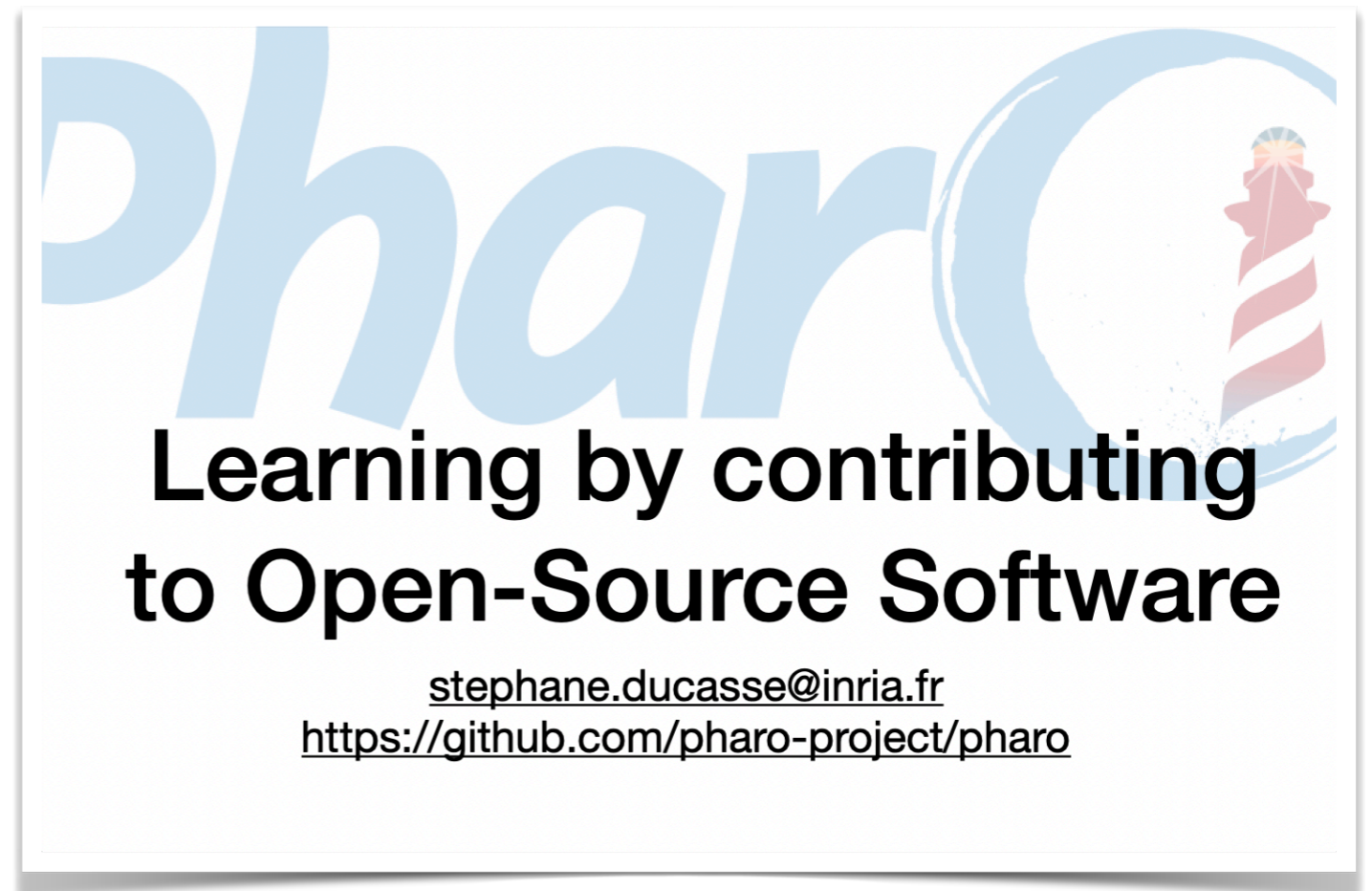


**Contributing to Pharo:
Easy, simple, fun and empowering**

stephane.ducasse@inria.fr

<https://github.com/pharo-project/pharo>

Remember ...

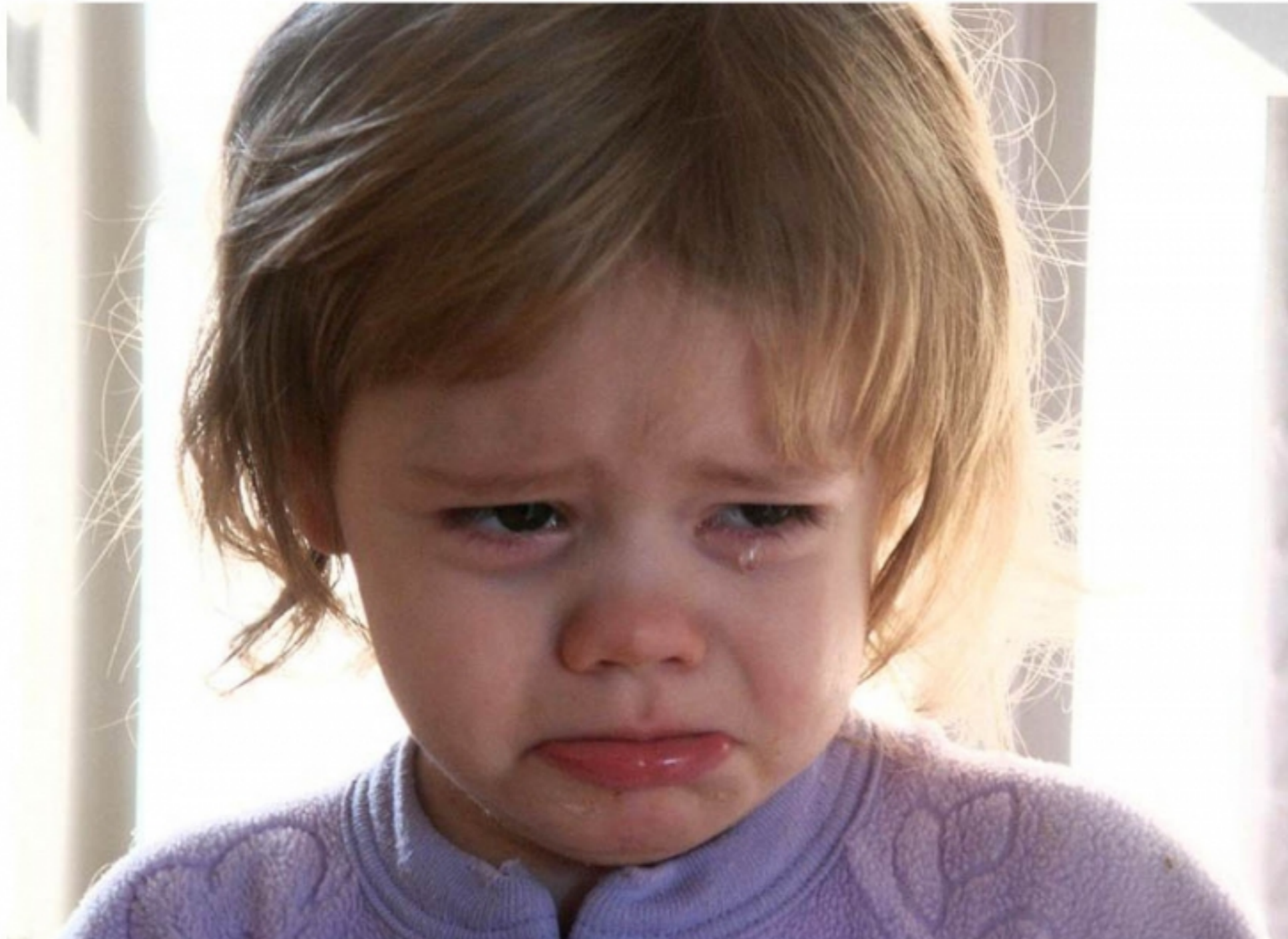


How to **practice**
software skills?

How to practice software skills?

- Program (but how to get feedback) code reviews are precious but difficult to get
- Code katas (always fun)
- Participate to sprints - pair program
- **Participate to open-source**

But I'm a noob





**And the world is
complex**

Wait wait wait...

We are all noobs!



**The solution is just
some clicks away...**

Take **any** opportunity
to read code

Take **any** opportunity
to contribute

A PIECE OF CAKE



**Contributing is easy &
simple**

Possible contributions

- **Read/answer newbie questions**
- **Participate to the wiki**
- **Review bug entry description**
- **Review bug fixes**
- **Write tests for bug entries**
- **Improve test coverage**
- **Improve comments**

Take **any** opportunity
to contribute

Contribute to Code

- Set up your own Pharo fork/Image
- Create a branch
- Improve Pharo
- Commit
- PR

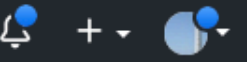
Step: Fork the pharo repo



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Create a new fork

A *fork* is a copy of a repository. Forking a repository allows you to freely experiment with changes without affecting the original project. [View existing forks.](#)

Owner *

Repository name *

[pharo-project](#) /

By default, forks are named the same as their parent repository. You can customize the name to distinguish it further.

Description (optional)

Copy the `Pharo11` branch only

Contribute back to pharo-project/pharo by adding your own branch. [Learn more.](#)

i You are creating a fork in the pharo-project organization.

[Create fork](#)



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[Pharo11](#)

[7 branches](#) [352 tags](#)

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Your Pharo11 branch isn't protected

Protect this branch from force pushing, deletion, or require status checks before merging.

[Protect this branch](#)

[Dismiss](#)



This branch is [16 commits behind](#) pharo-project:Pharo11.

[Contribute](#)

[Sync fork](#)

[Ducasse](#) Delete .bintray.json ...

d1c64b7 4 days ago [18,442](#) commits

.github	Update bug-report.md	17 months ago
bootstrap	Replace calls to #'theNonMetaClass' with #'instanceSide' (fix pharo-...)	last month
doc	fixing the pattern examples	4 days ago

Step: Grab latest image

Pharo Launcher

Enter image name filter ...

Name	Architecture	Pharo Version	Last modified
P9-Citezen4	64	90	yesterday
P11-Rb2	64	110	3 days ago

Pharo Launcher - Image creation

1. Choose a template category:

- Templates
- Pharo Mooc
- Official distributions
- Deprecated distributions
- Pharo Contribution Jenkins
- Moose Jenkins
- Pharo 10.0 (stable)
- Pharo 11.0 (development ver)
- Pharo IoT (PharoThings)
- Pharo Remote Development

2. Choose a template:

- Pharo 11.0 - 64bit (development version, latest)
- Pharo 11.0 - 32bit (development version, latest)
- Pharo 10.0 - 64bit (stable)
- Pharo 10.0 - 32bit (stable)
- Pharo 9.0 - 64bit (old stable)
- Pharo 9.0 - 32bit (old stable)
- Moose Suite 10 (development)
- Moose Suite 9.0 (stable)
- Moose Suite 8.0 (old stable)

Image name: Pharo 11.0 - 64bit (development version, latest) ✓

Image description:

Initialization script: No initialization script

Create image



Pharo Launcher



New



Launch



Basic lau...



From disk



Import



Refresh



Show



Delete



VMs



Settings



About



Quit

Happ

Name	Architecture	Pharo Version	Last modified
P11-HappyContributing	64	110	just now

No image selected image, last edited N/A

Description <no description given>

Origin template (noname)

Initialization script <none>

Location

Welcome

Pharo11.0.0

build: 158, commit: 55d062a, date: 17 August 2022

- Welcome to Pharo11.0.0
- Changes in Pharo 10
- Learn Pharo
- Explore the Pharo Environment
- More Documentation
- Getting Help

Repositories



Fetch all



Settings

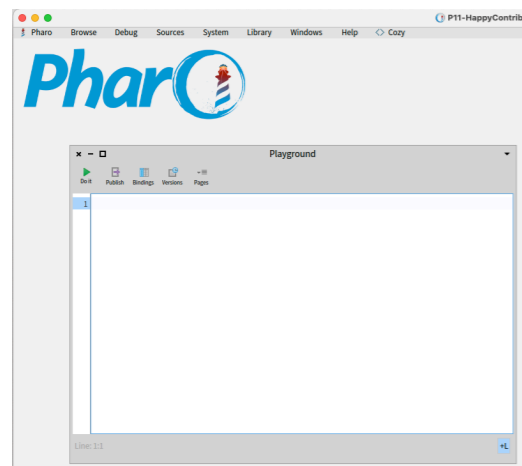


Add

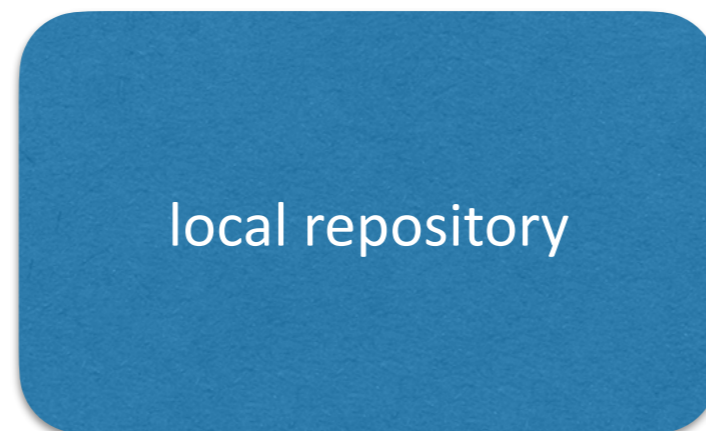
Repositories	Status	Branch
pharo	Local repository missing	Unknown
Spec2	Local repository missing	Unknown
NewTools	Local repository missing	Unknown
Roassal3	Local repository missing	Unknown
Microdown	Local repository missing	Unknown
BeautifulComments	Local repository missing	Unknown
iceberg	Local repository missing	Unknown
libgit2-pharo-bindings	Local repository missing	Unknown
tonel	Local repository missing	Unknown

Situation

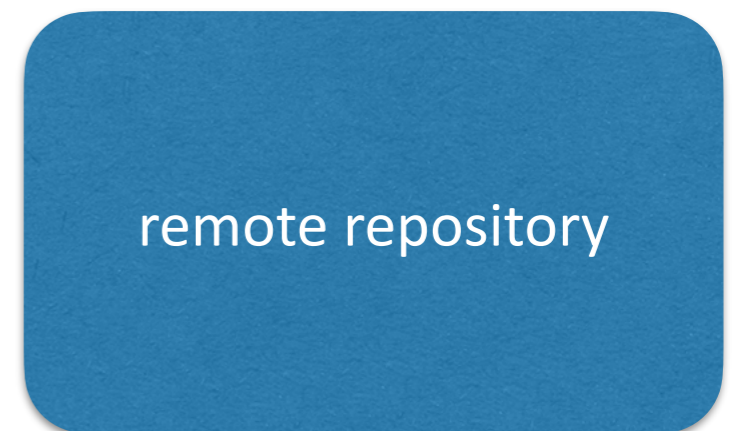
- The image has code too
- The local and remote repo can be desynchronized
- The image and local repo can be desynchronized



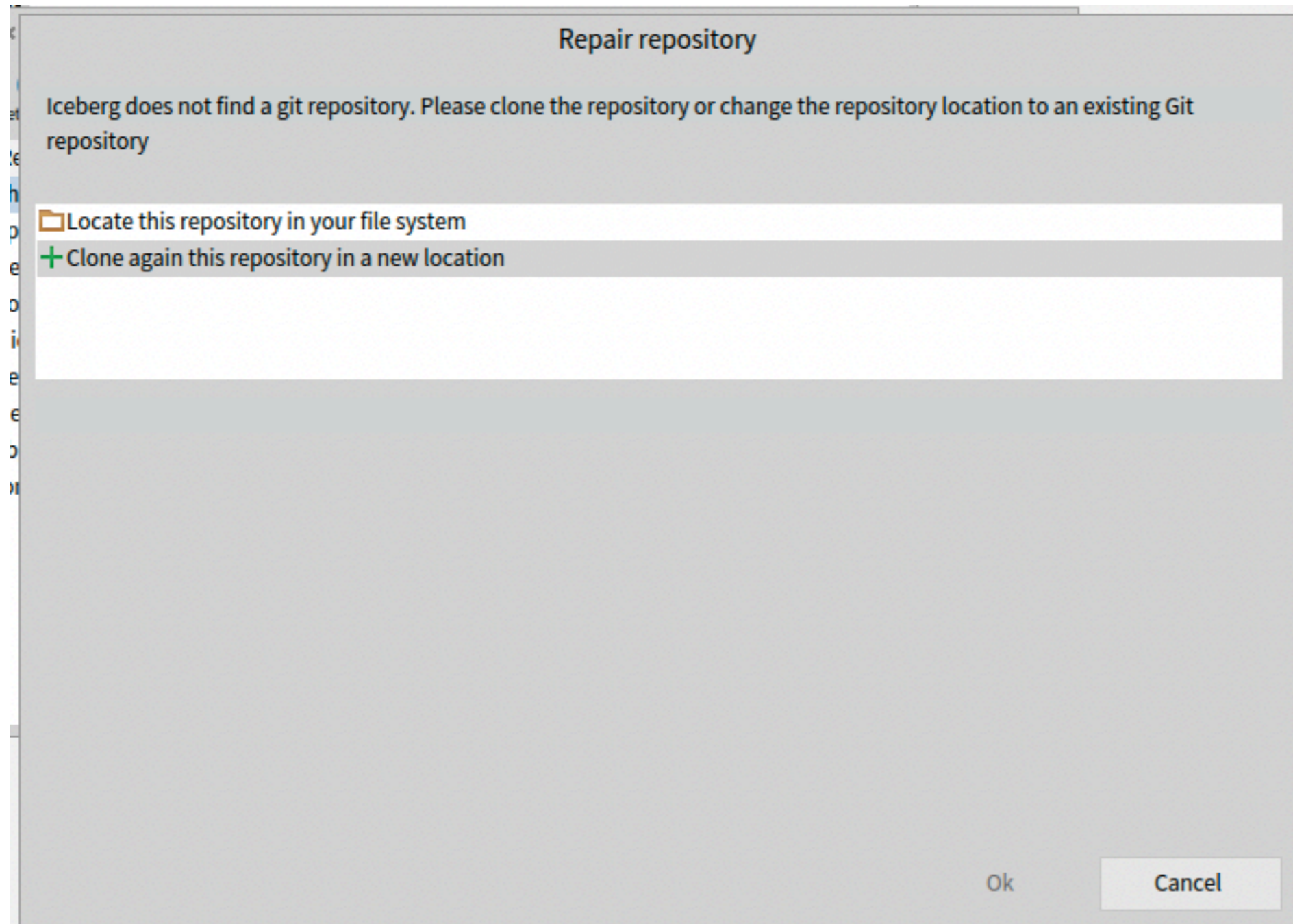
image



git working copy



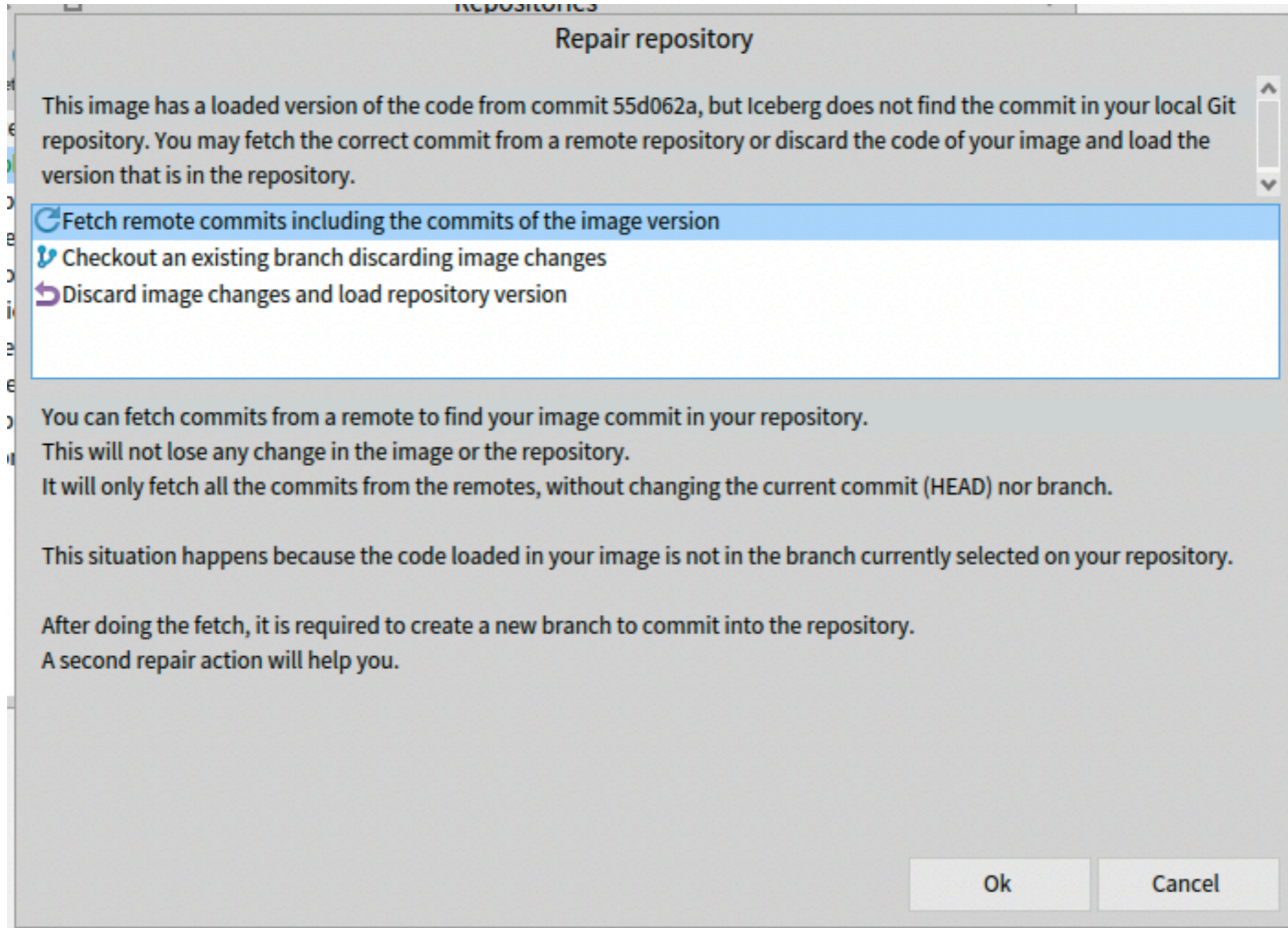
Step: Repair



Step: Repair

Now your Pharo image knows where is the code repo

if fetch required, fetch



Remember

Iceberg actions are sorted from more likelihood to less likelihood

Now

Now your local get the latest changes (according to the image) from Pharo

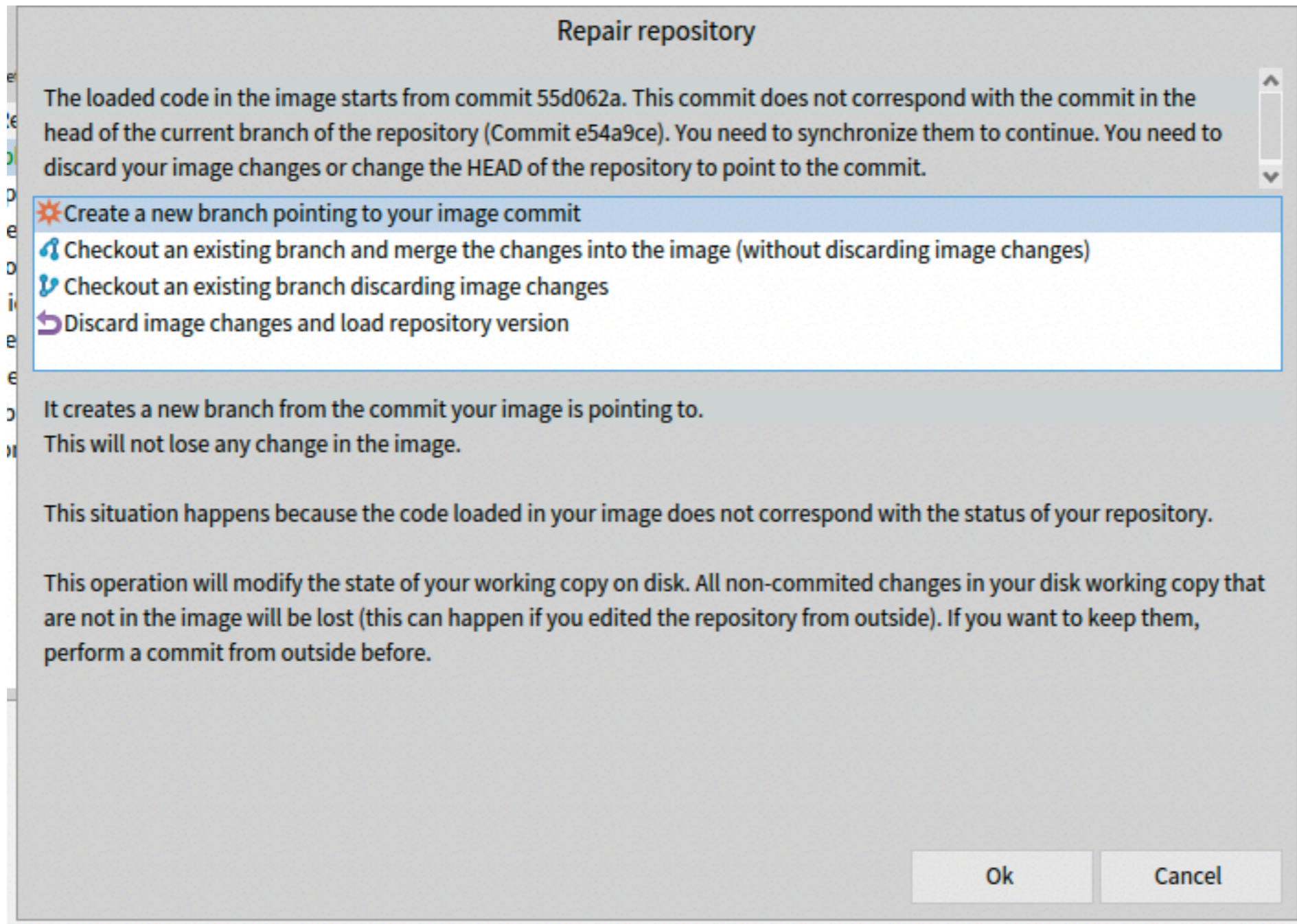
Detached Working Copy

Repositories	Status	Branch
*pharo	Detached Working Copy	11526-Refactoring2-core-should-be-merge-
Spec2	Local repository missing	Unknown
NewTools	Local repository missing	Unknown
Roassal3	Local repository missing	Unknown
Microdown	Local repository missing	Unknown
BeautifulComments	Local repository missing	Unknown
iceberg	Local repository missing	Unknown
libgit2-pharo-bindings	Local repository missing	Unknown
tonel	Local repository missing	Unknown

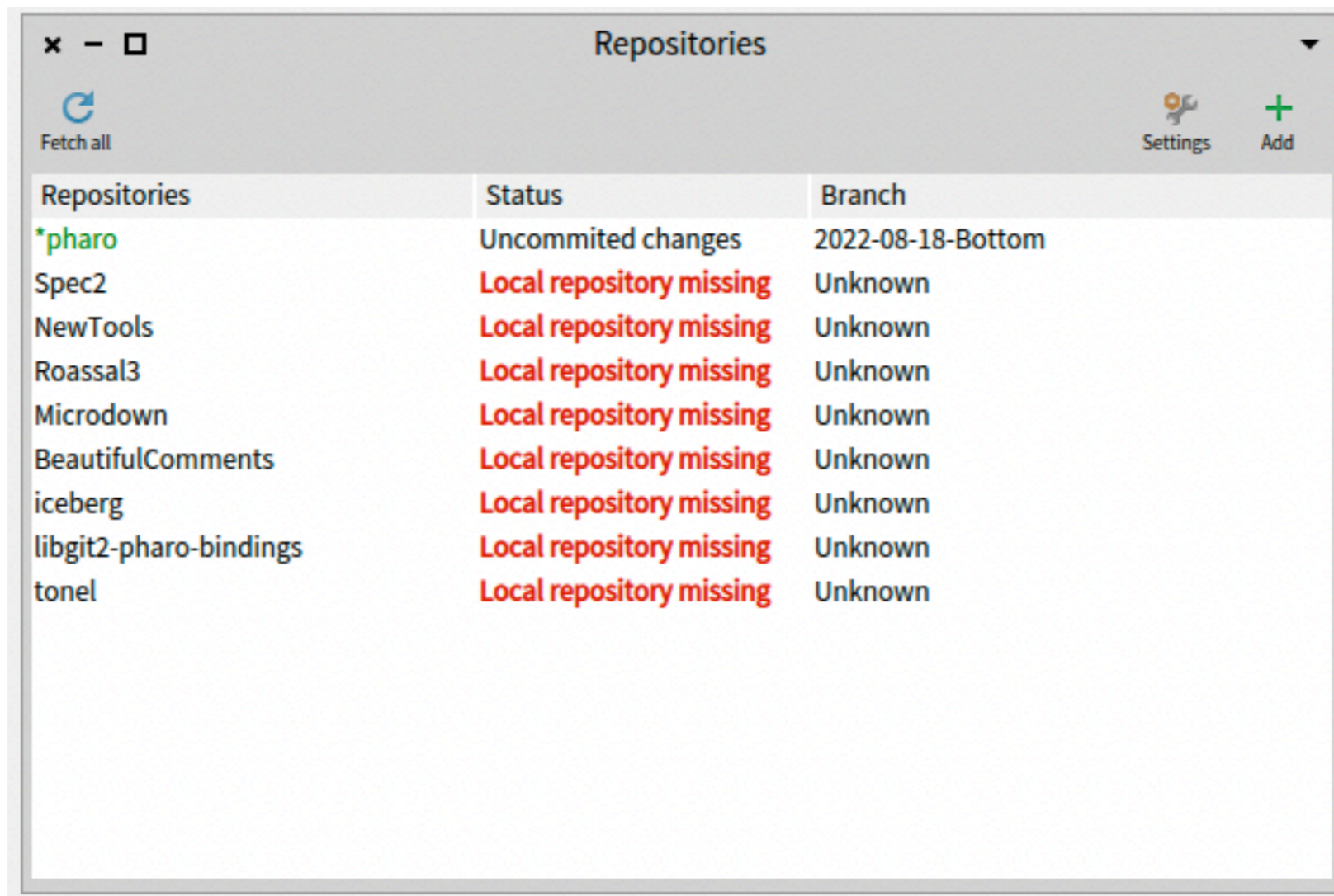
Repair

Now it will create a branch pointing to the state of your image

Create a “bottom” branch



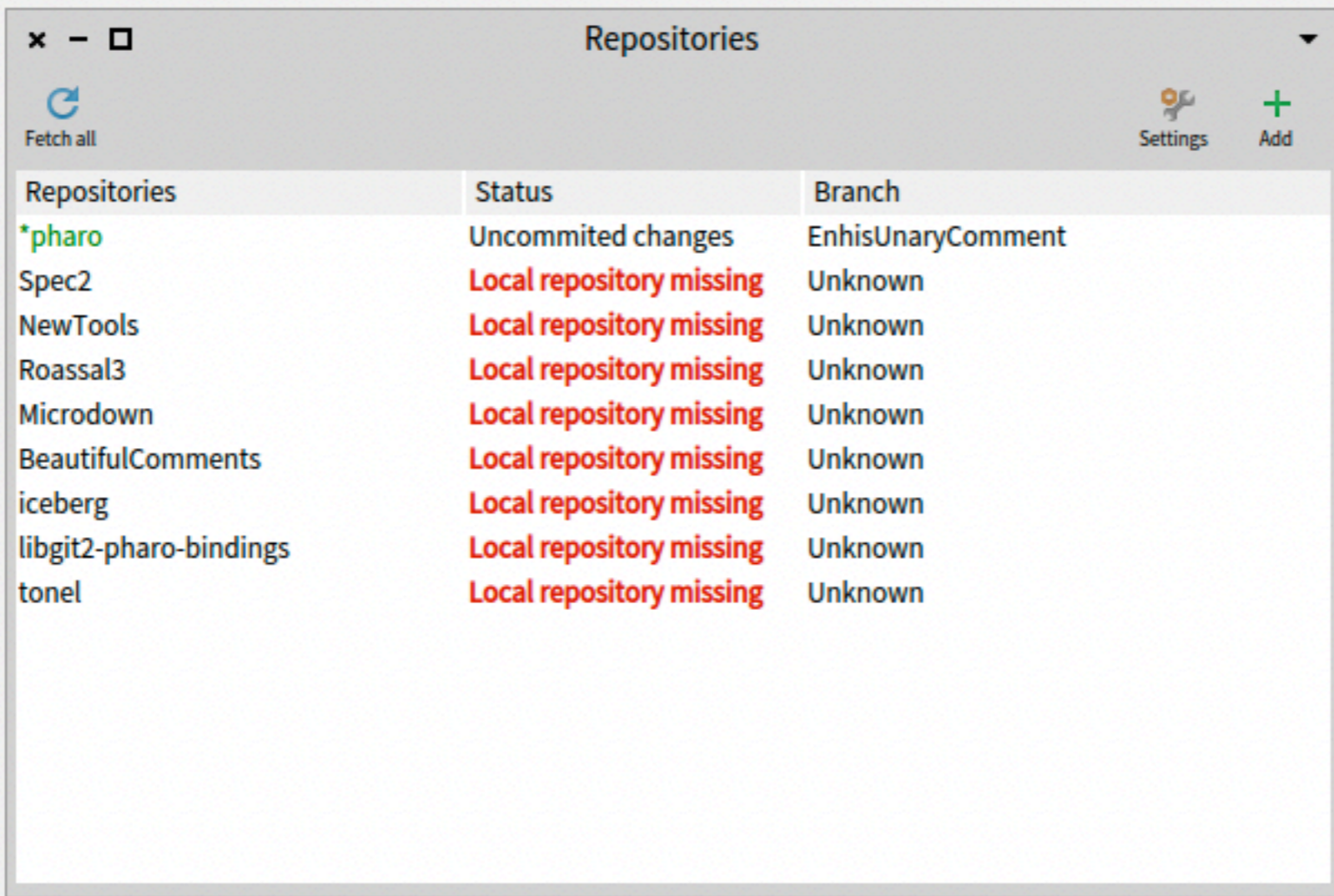
This way you can always come back “here”



The screenshot shows a window titled "Repositories" with a table of repository information. The table has three columns: "Repositories", "Status", and "Branch". The first row shows a repository named "*pharo" with the status "Uncommitted changes" and the branch "2022-08-18-Bottom". The following seven rows show repositories with the status "Local repository missing" and the branch "Unknown".

Repositories	Status	Branch
*pharo	Uncommitted changes	2022-08-18-Bottom
Spec2	Local repository missing	Unknown
NewTools	Local repository missing	Unknown
Roassal3	Local repository missing	Unknown
Microdown	Local repository missing	Unknown
BeautifulComments	Local repository missing	Unknown
iceberg	Local repository missing	Unknown
libgit2-pharo-bindings	Local repository missing	Unknown
tonel	Local repository missing	Unknown

Step: Create a Branch for your fix



Repositories	Status	Branch
*pharo	Uncommitted changes	EnhisUnaryComment
Spec2	Local repository missing	Unknown
NewTools	Local repository missing	Unknown
Roassal3	Local repository missing	Unknown
Microdown	Local repository missing	Unknown
BeautifulComments	Local repository missing	Unknown
iceberg	Local repository missing	Unknown
libgit2-pharo-bindings	Local repository missing	Unknown
tonel	Local repository missing	Unknown

Step: Do your fix

The screenshot shows the Smalltalk IDE interface. The title bar of the window is "Symbol>>isUnary". The left sidebar shows a package browser with "Collections-Strings" selected. The middle pane shows the class hierarchy for "ManifestCollectionsStrings", with "Symbol" selected. The right pane shows the "isUnary" method definition, which includes a "should be implemented" warning and a list of flags. The bottom pane shows the implementation of the "isUnary" method in Smalltalk code.

```
Symbol>>isUnary
```

ManifestCollectionsStrings

- String
 - ByteString
 - Symbol
 - ByteSymbol
 - WideSymbol
 - WideString

instance side

- extensions
 - should be implemented
- flags
 - accessing
 - announcements
 - comparing
 - converting
 - copying
 - evaluating
 - printing
 - private
 - sorting
 - system primitives
 - testing
 - overridden

isUnary

- numArgs:
- precedence
- prepareForDelivery
- replaceFrom:to:with:startingAt:
- rsValue:
- senders
- separateKeywords
- setForDo:withInMetacelloConfig:
- setForVersion:withInMetacelloCo
- setPostLoadDoItInMetacelloSpec
- setPreLoadDoItInMetacelloSpec:
- shallowCopy
- sorted:
- stonOn:
- storeOn:

All Packages | Scoped View | Flat | Hier. | Inst. side | Class side | Methods | Vars | Class refs. | Implementors | Senders

Comment | Symbol | isUnary | UML-Class | Inst. side methc

```
isUnary
  "Answer whether the receiver is an unary message selector."

  "#new isUnary >>> true"
  "#>> isUnary >>> false"
  "#between:and: isUnary >>> false"

  ^ self precedence = 1
```

Step: commit to your fork

Commit on pharo branch EnhisUnaryComment

Refresh

src
Collections-Strings
Symbol
isUnary

Repository

```
"testing"  
isUnary  
    "Answer whether the receiver is  
^ self precedence = 1
```

Working Copy

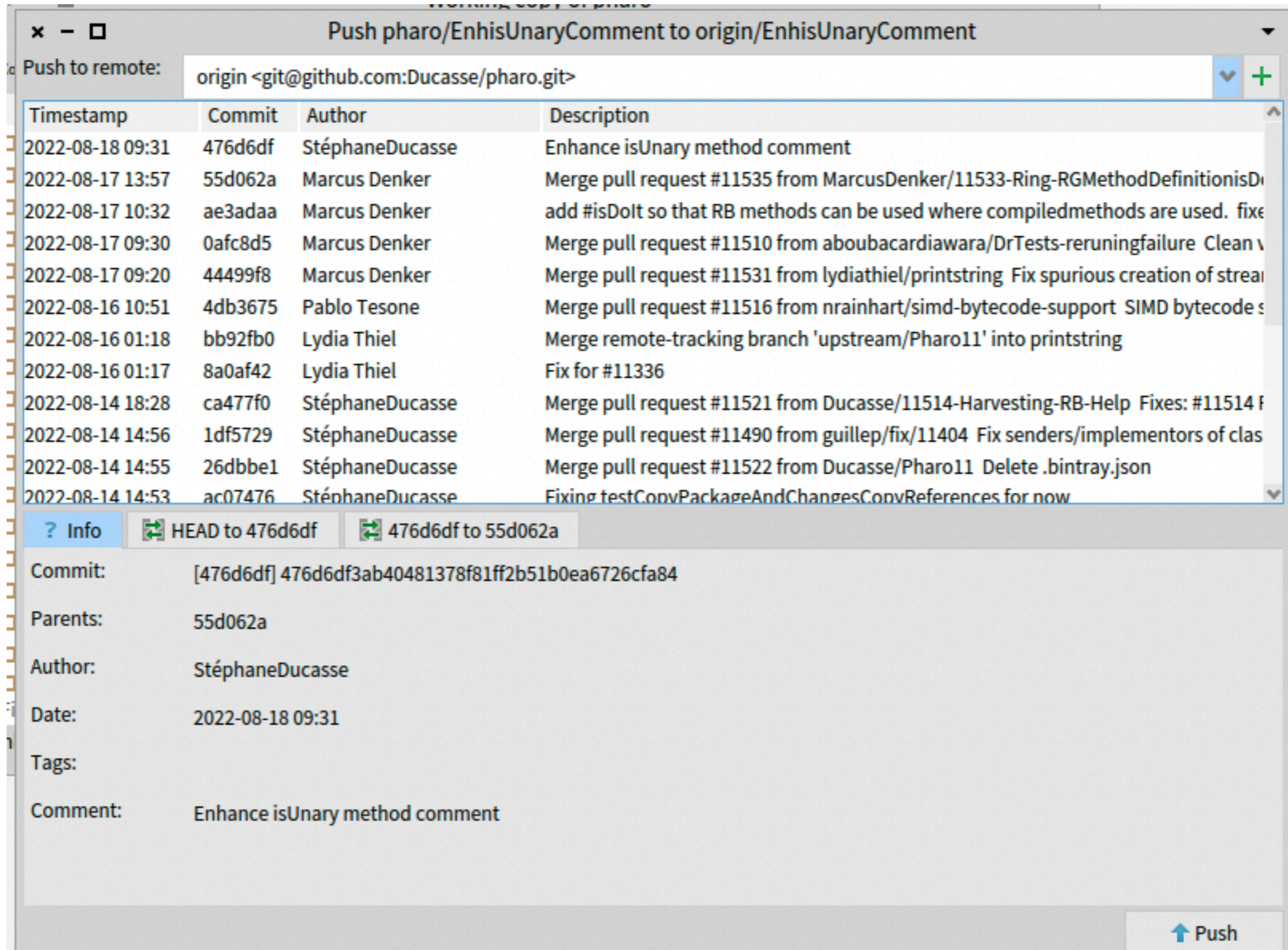
```
"testing"  
isUnary  
    "Answer whether the receive  
    "#new isUnary >>> true"  
    "#>> isUnary >>> false"  
    "#between:and: isUnary >>>  
^ self precedence = 1
```

Cannot push new branch automatically. Use the `Push` option Save the image when committing Run Critiques when committing

Enhance isUnary method comment

Commit

Step: Push to your fork



Push pharo/EnhisUnaryComment to origin/EnhisUnaryComment

Push to remote: origin <git@github.com:Ducasse/pharo.git>

Timestamp	Commit	Author	Description
2022-08-18 09:31	476d6df	StéphaneDucasse	Enhance isUnary method comment
2022-08-17 13:57	55d062a	Marcus Denker	Merge pull request #11535 from MarcusDenker/11533-Ring-RGMethodDefinitionisD
2022-08-17 10:32	ae3adaa	Marcus Denker	add #isDolt so that RB methods can be used where compiled methods are used. fixe
2022-08-17 09:30	0afc8d5	Marcus Denker	Merge pull request #11510 from aboubacardiawara/DrTests-reruningfailure Clean v
2022-08-17 09:20	44499f8	Marcus Denker	Merge pull request #11531 from lydiathiel/printstring Fix spurious creation of stream
2022-08-16 10:51	4db3675	Pablo Tesone	Merge pull request #11516 from nrainhart/simd-bytecode-support SIMD bytecode s
2022-08-16 01:18	bb92fb0	Lydia Thiel	Merge remote-tracking branch 'upstream/Pharo11' into printstring
2022-08-16 01:17	8a0af42	Lydia Thiel	Fix for #11336
2022-08-14 18:28	ca477f0	StéphaneDucasse	Merge pull request #11521 from Ducasse/11514-Harvesting-RB-Help Fixes: #11514 f
2022-08-14 14:56	1df5729	StéphaneDucasse	Merge pull request #11490 from guillep/fix/11404 Fix senders/implementors of clas
2022-08-14 14:55	26dbbe1	StéphaneDucasse	Merge pull request #11522 from Ducasse/Pharo11 Delete .bintray.json
2022-08-14 14:53	ac07476	StéphaneDucasse	Fixing testConvPackageAndChangesConvReferences for now

? Info HEAD to 476d6df 476d6df to 55d062a

Commit: [476d6df] 476d6df3ab40481378f81ff2b51b0ea6726cfa84

Parents: 55d062a

Author: StéphaneDucasse

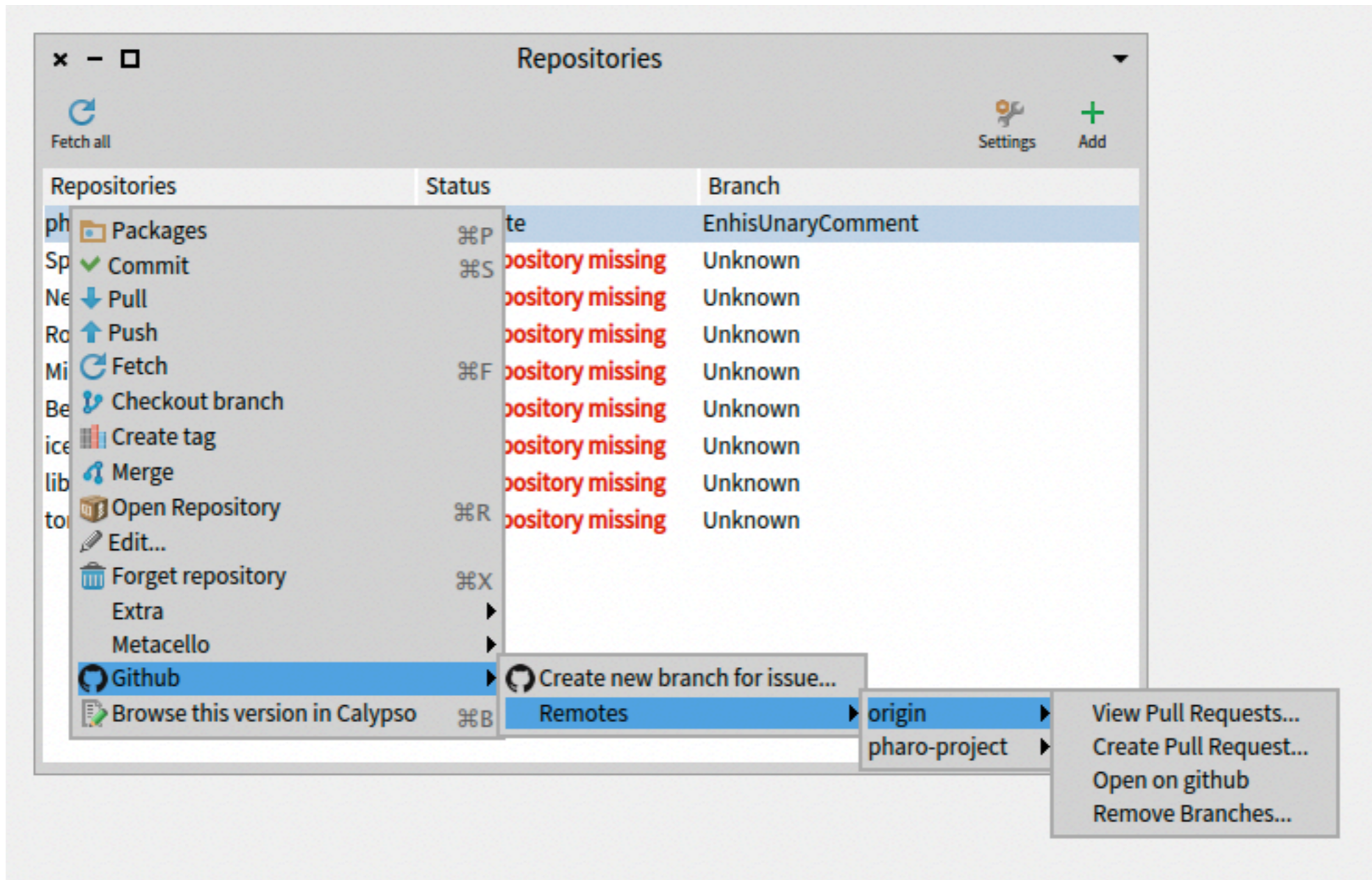
Date: 2022-08-18 09:31

Tags:

Comment: Enhance isUnary method comment

↑ Push

Step: Do a PR



Step: Do a PR



Search or jump to...



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[Ducasse / pharo](#) Public

forked from [pharo-project/pharo](#)

Unpin

Watch 1

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EnhisUnaryComment had recent pushes less than a minute ago

[Compare & pull request](#)

Pharo11

7 branches **352 tags**

[Go to file](#)

[Add file](#)

[Code](#)

Your Pharo11 branch isn't protected

Protect this branch from force pushing, deletion, or require status checks before merging.

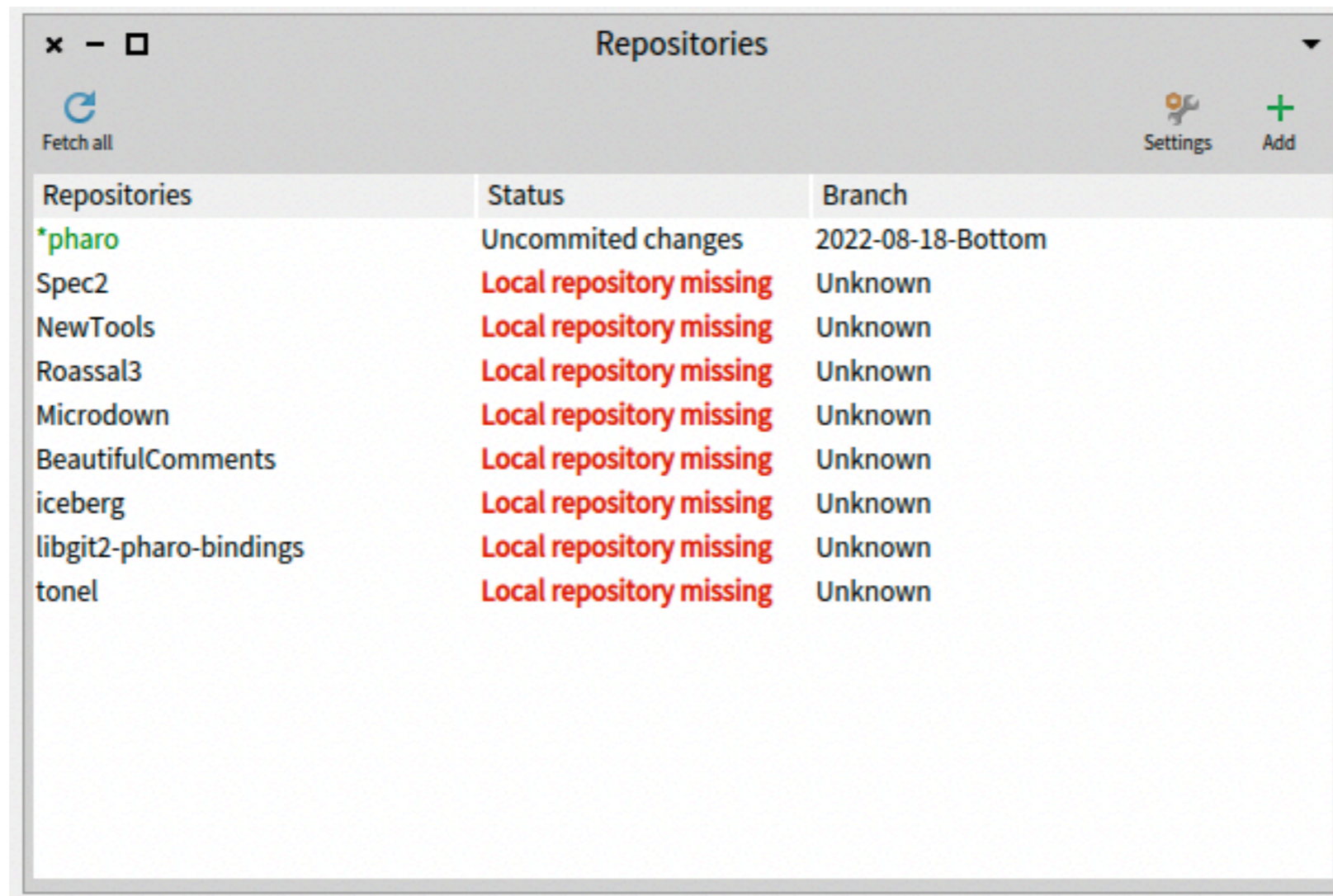
[Protect this branch](#)

[Dismiss](#)



Step: Check out your “bottom” branch

- And now you can fix another one :)



Repositories	Status	Branch
*pharo	Uncommitted changes	2022-08-18-Bottom
Spec2	Local repository missing	Unknown
NewTools	Local repository missing	Unknown
Roassal3	Local repository missing	Unknown
Microdown	Local repository missing	Unknown
BeautifulComments	Local repository missing	Unknown
iceberg	Local repository missing	Unknown
libgit2-pharo-bindings	Local repository missing	Unknown
tonel	Local repository missing	Unknown

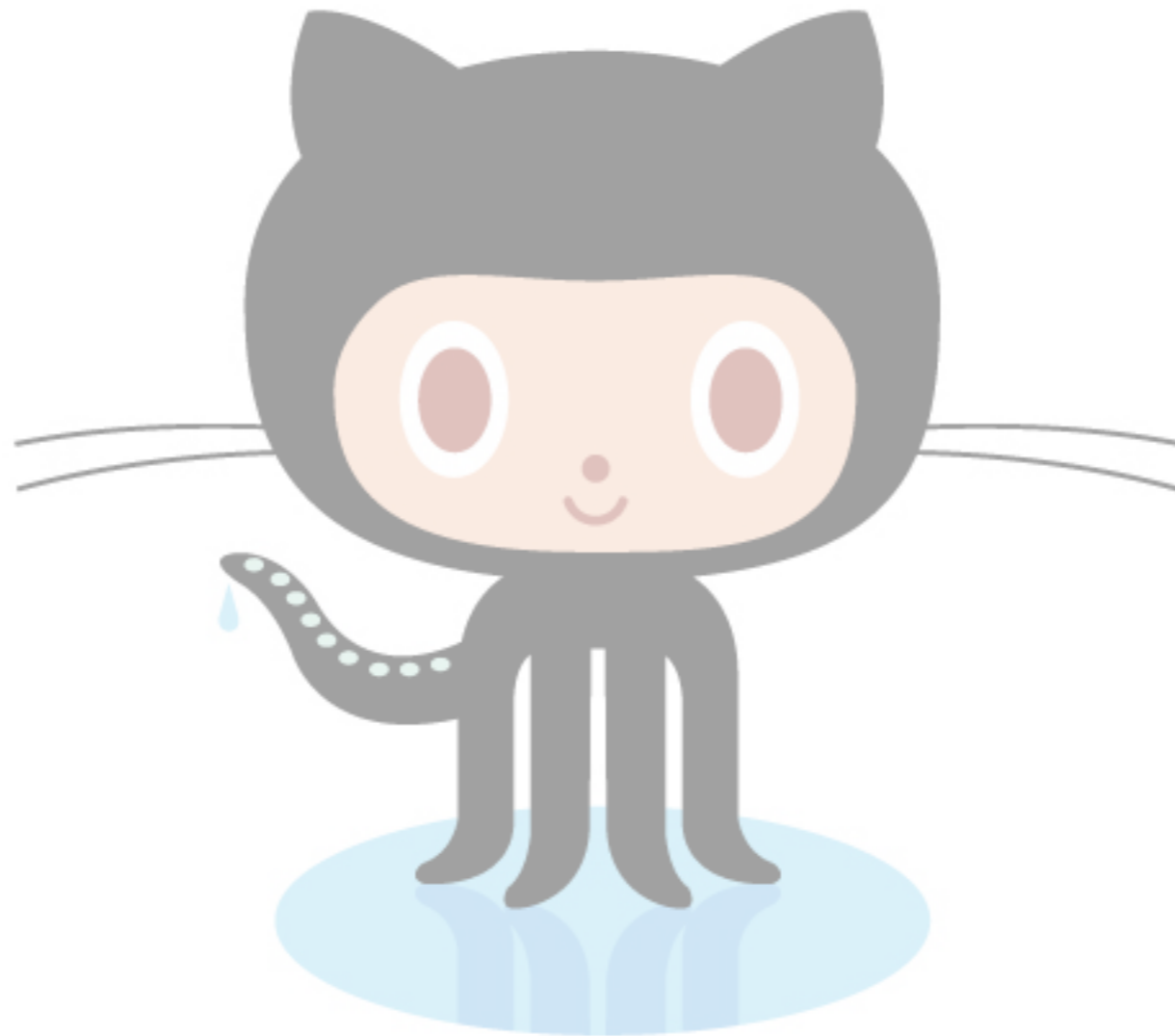
No need to refork or sync your repo

- Do not care if your fork is not up to dat
- When you will do the fetch, your local will be updated (from latest Pharo)
- When you will push to your remote, your local will send the latest Pharo change there

Contributing to Pharo is easy

- You will improve Pharo
- You will learn a lot
- You will meet friends
- You will build network

[Free side effect]



When you contribute to open-source you improve **your** visibility

[Remember]

Every thing you do today has an impact
on your tomorrow!

**[how did we meet
with Marcus D.?]**

**[we reviewed squeak
bug issues]**

**[then we created
Pharo :)]**