

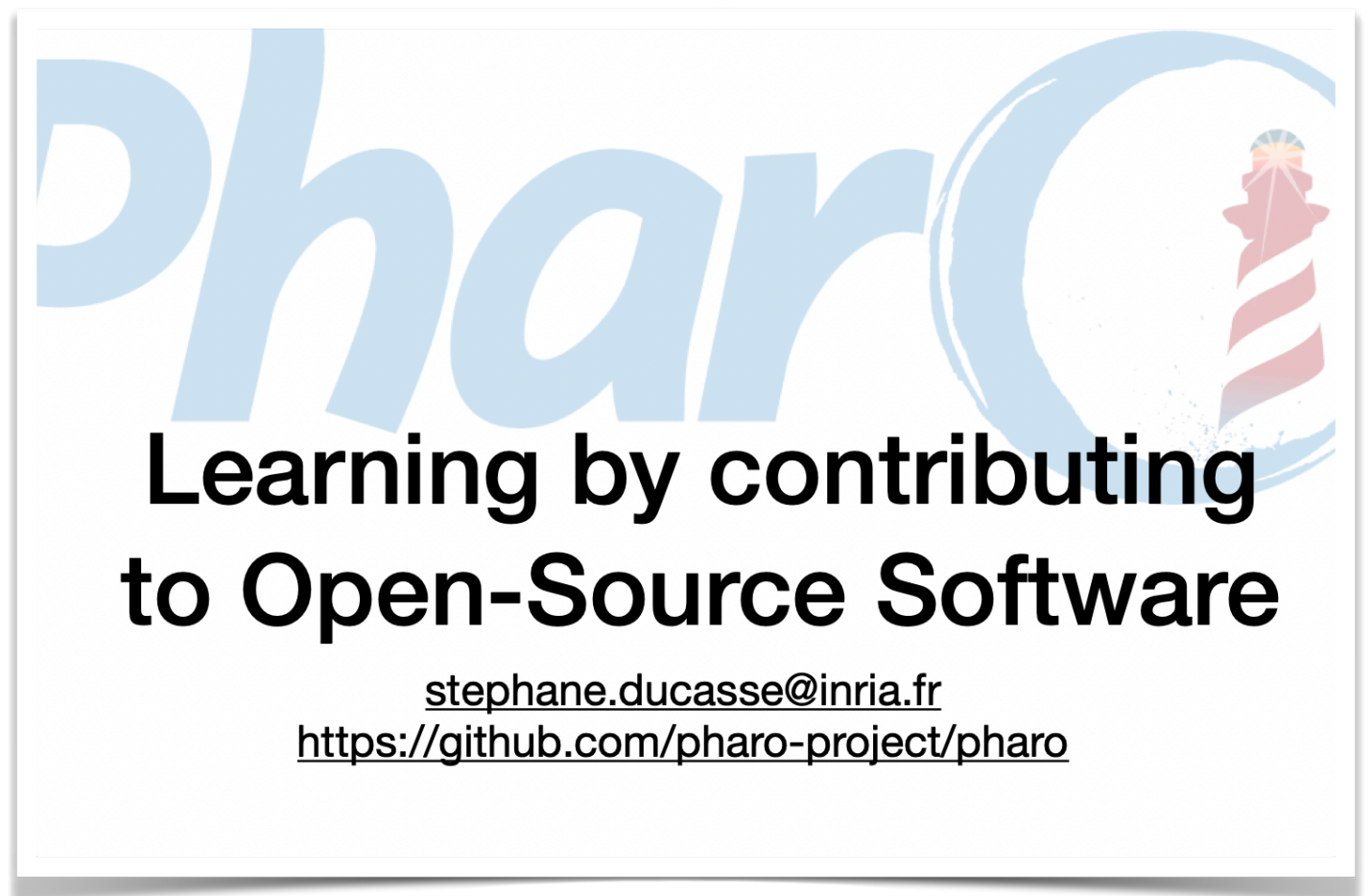


# **Contributing to Pharo: Easy, simple, fun and empowering**

[stephane.ducasse@inria.fr](mailto:stephane.ducasse@inria.fr)

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

# Remember ...



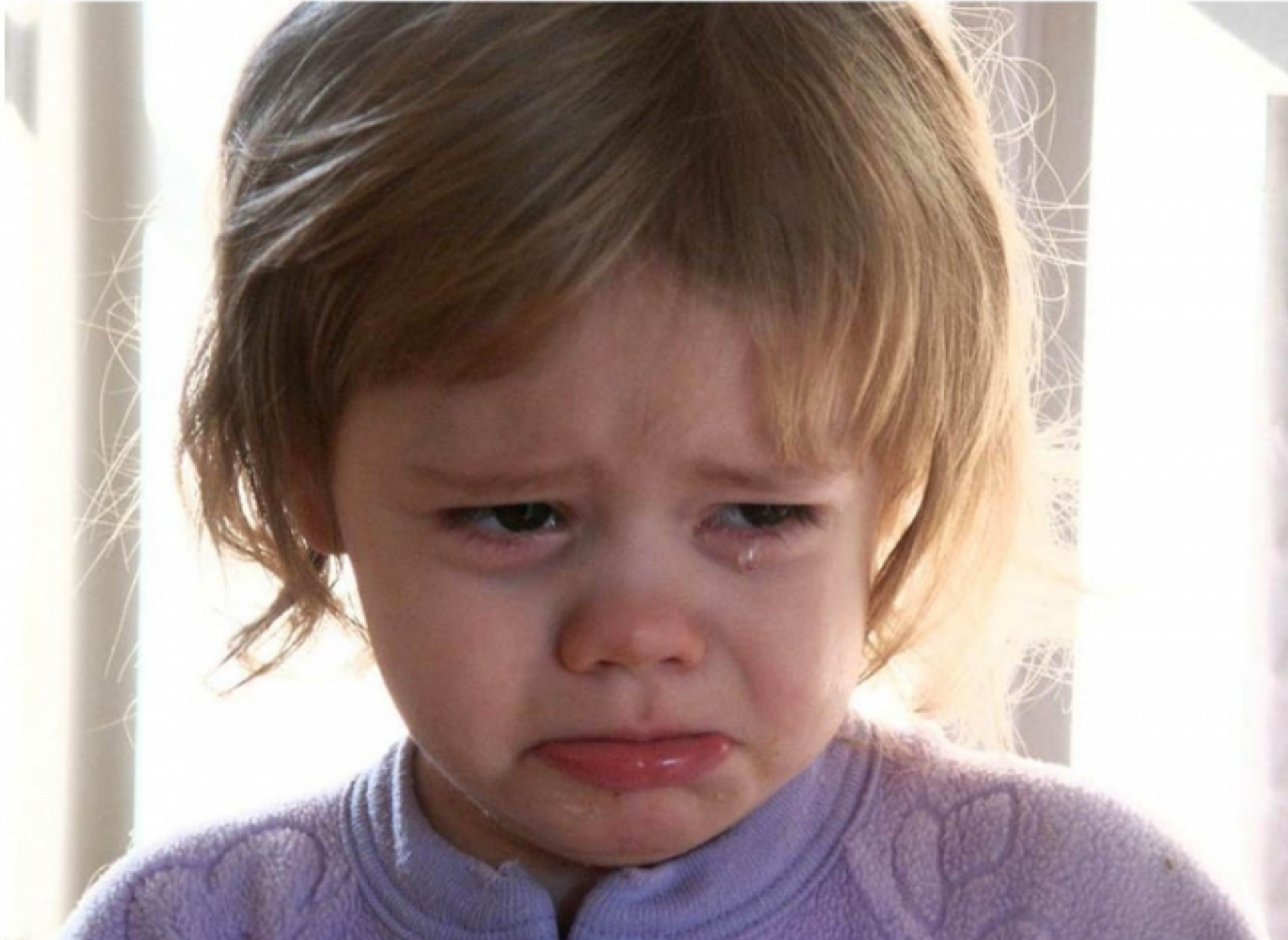
<https://rmod-files.lille.inria.fr/Team/Presentations/2019-ESUG-LearningByDoing-Ducasse.pdf>

**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

[Pull requests](#) [Issues](#) [Marketplace](#) [Explore](#)[pharo-project / pharo](#) Public[Sponsor](#)[Edit Pins](#)[Unwatch](#) 42[Fork](#) 285[Starred](#) 906[Code](#) [Issues](#) 914 [Pull requests](#) 19 [Discussions](#) [Actions](#) [Wiki](#) [Security](#) [Insights](#) [Settings](#)

## 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



pharo-1



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

Description (optional)

Pharo is a dynamic reflective pure object-oriented language supporting live programming inspired by Smallt

☒ **Copy the** `Pharo11` **branch only**

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

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

Create fork





Search or jump to...



Pull requests

Issues

Marketplace

Explore

**Ducasse / pharo** Public

Unpin

Watch **1**

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

**Code**

Pull requests

Actions

Projects

Wiki

Security

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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](#)



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

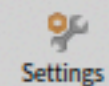
build: 158, commit: 55d062a, date: 17 August 2022

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

## Repositories



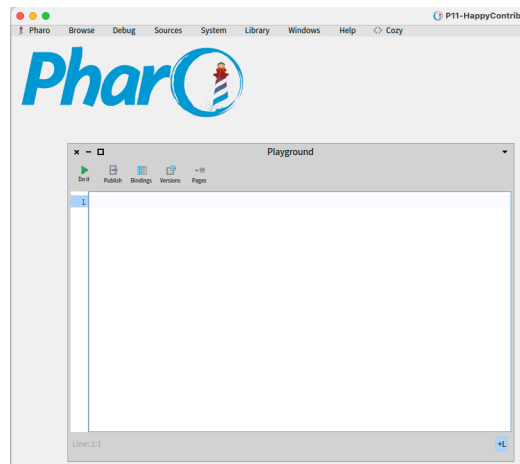
Fetch all



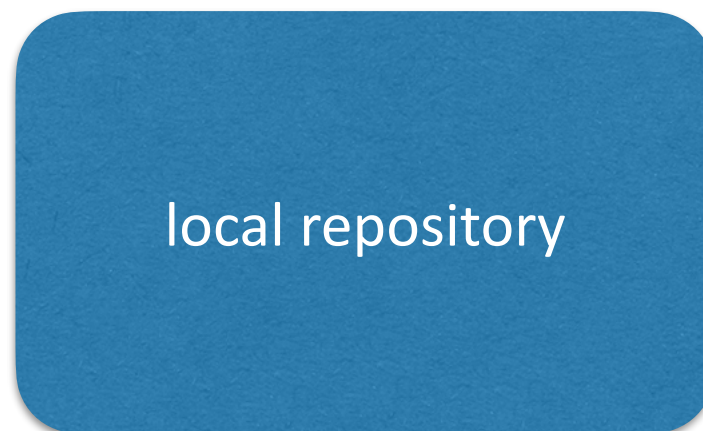
Repositories	Status	Branch
pharo	Local repository missing	Unknown
Spec2	Local repository missing	Unknown
NewTools	Local repository missing	Unknown
Roassal3	Local repository missing	Unknown
Microdown	Local repository missing	Unknown
BeautifulComments	Local repository missing	Unknown
iceberg	Local repository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

# Situation

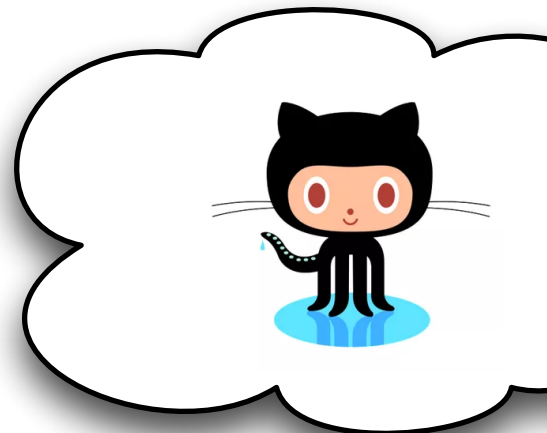
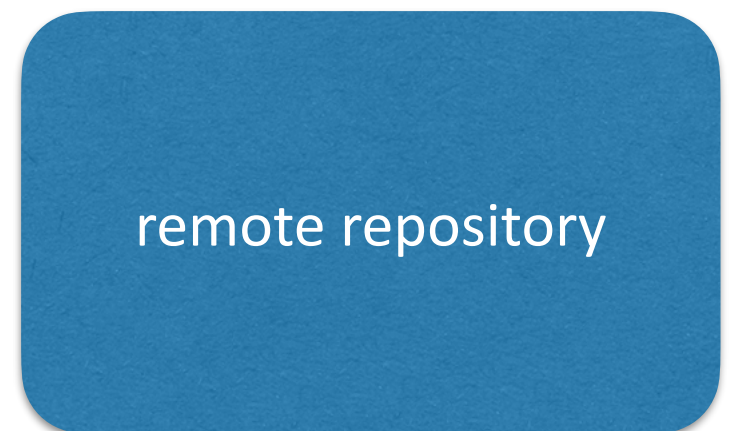
- The image has code too
- The local and remote repo can be desynchronized
- The image and local repo can be desynchronized



image

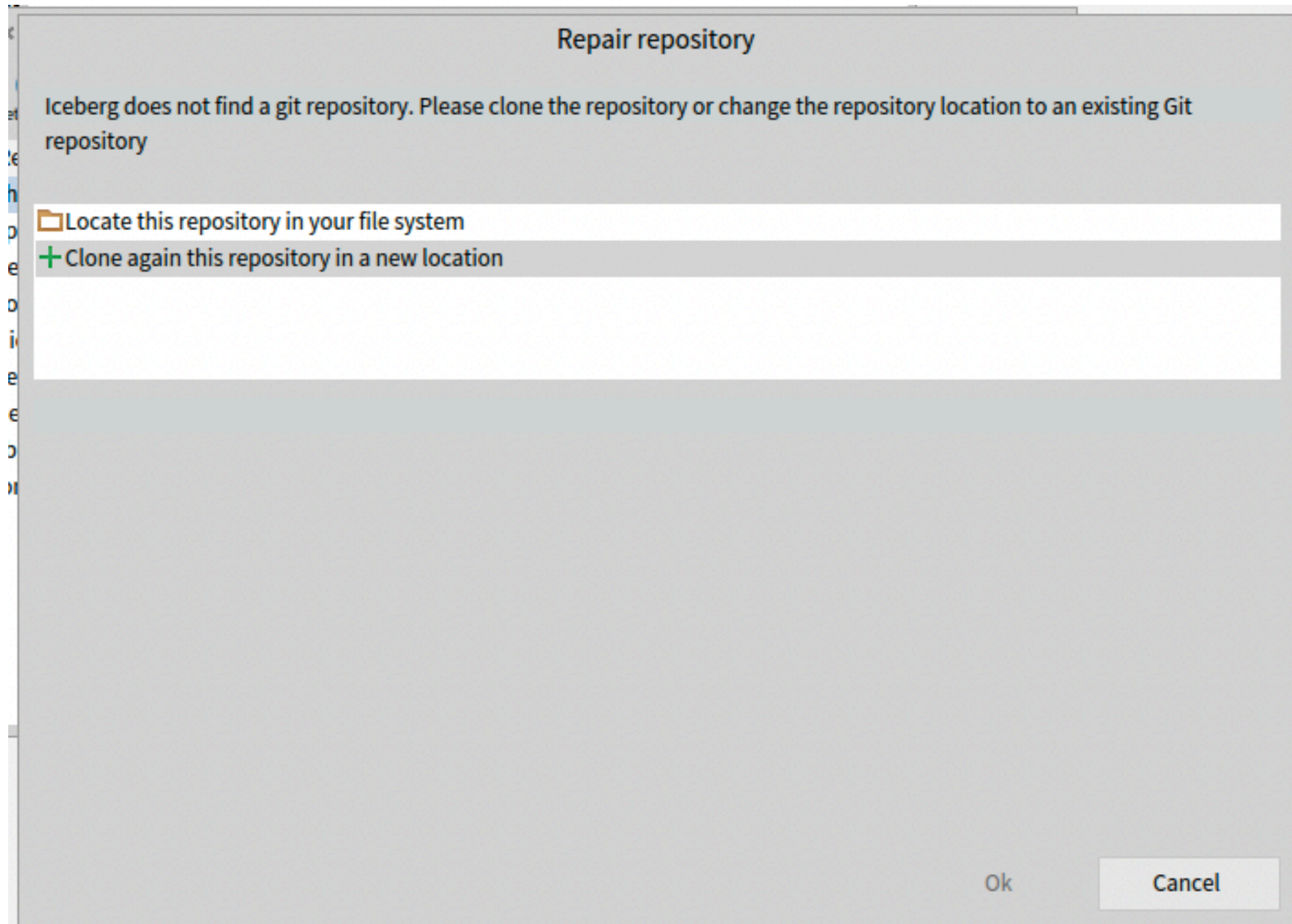


git working copy





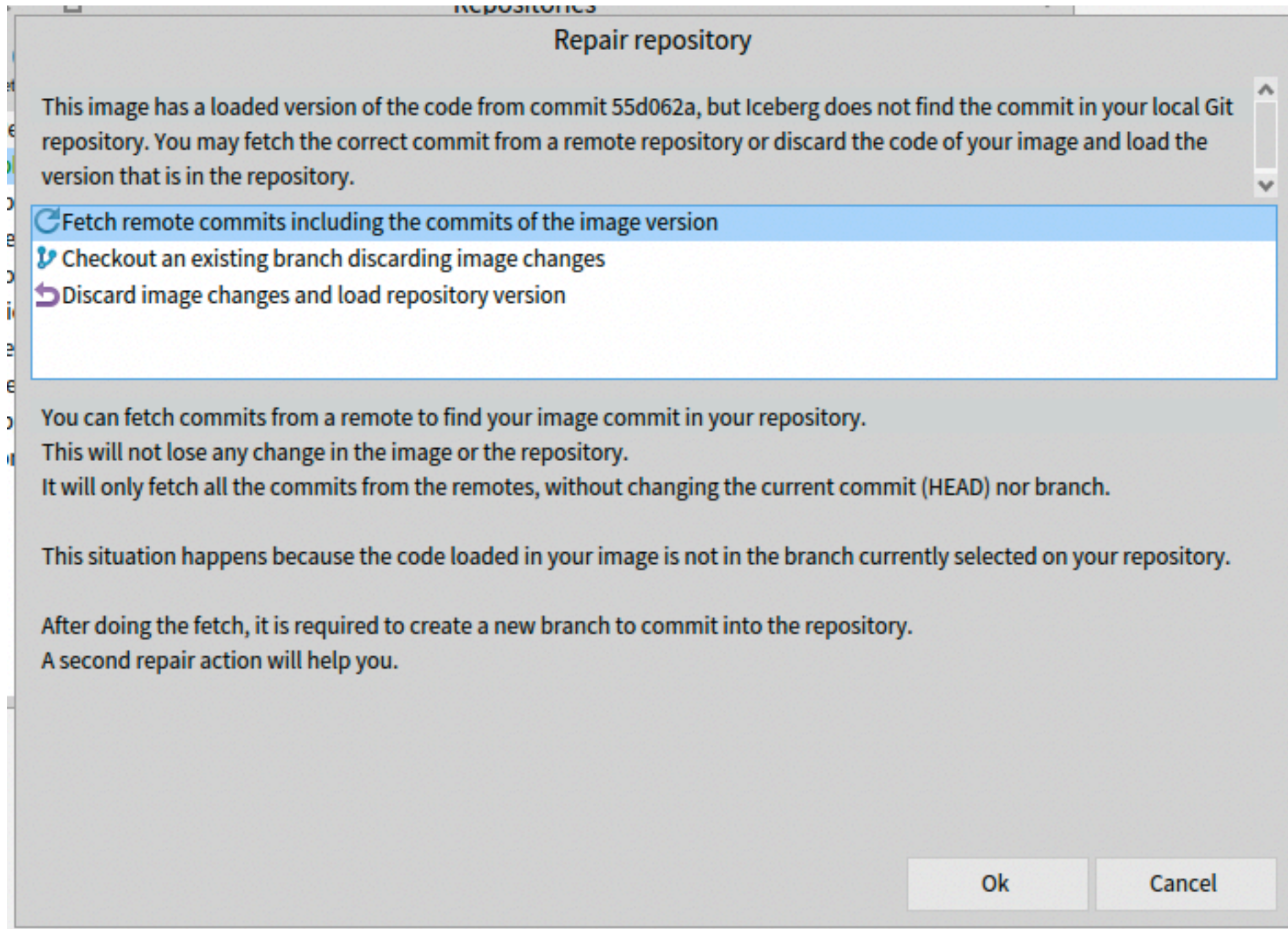
# Step: Repair



# Step: Repair

Now your Pharo image knows where is the code repo

# if fetch required, fetch



# Remember

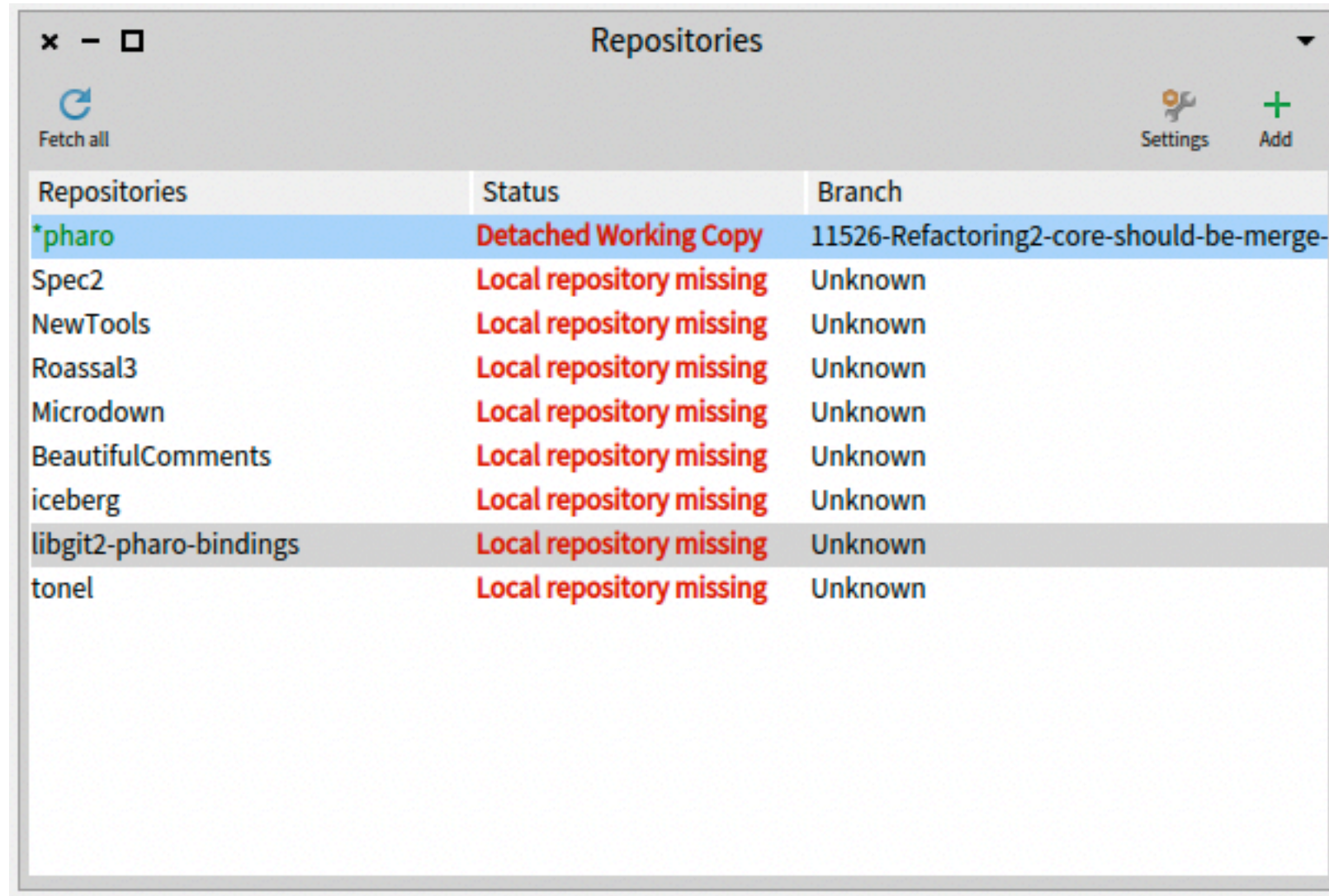
Iceberg actions are sorted from more likelihood to less likelihood

# Now

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



# Detached Working Copy

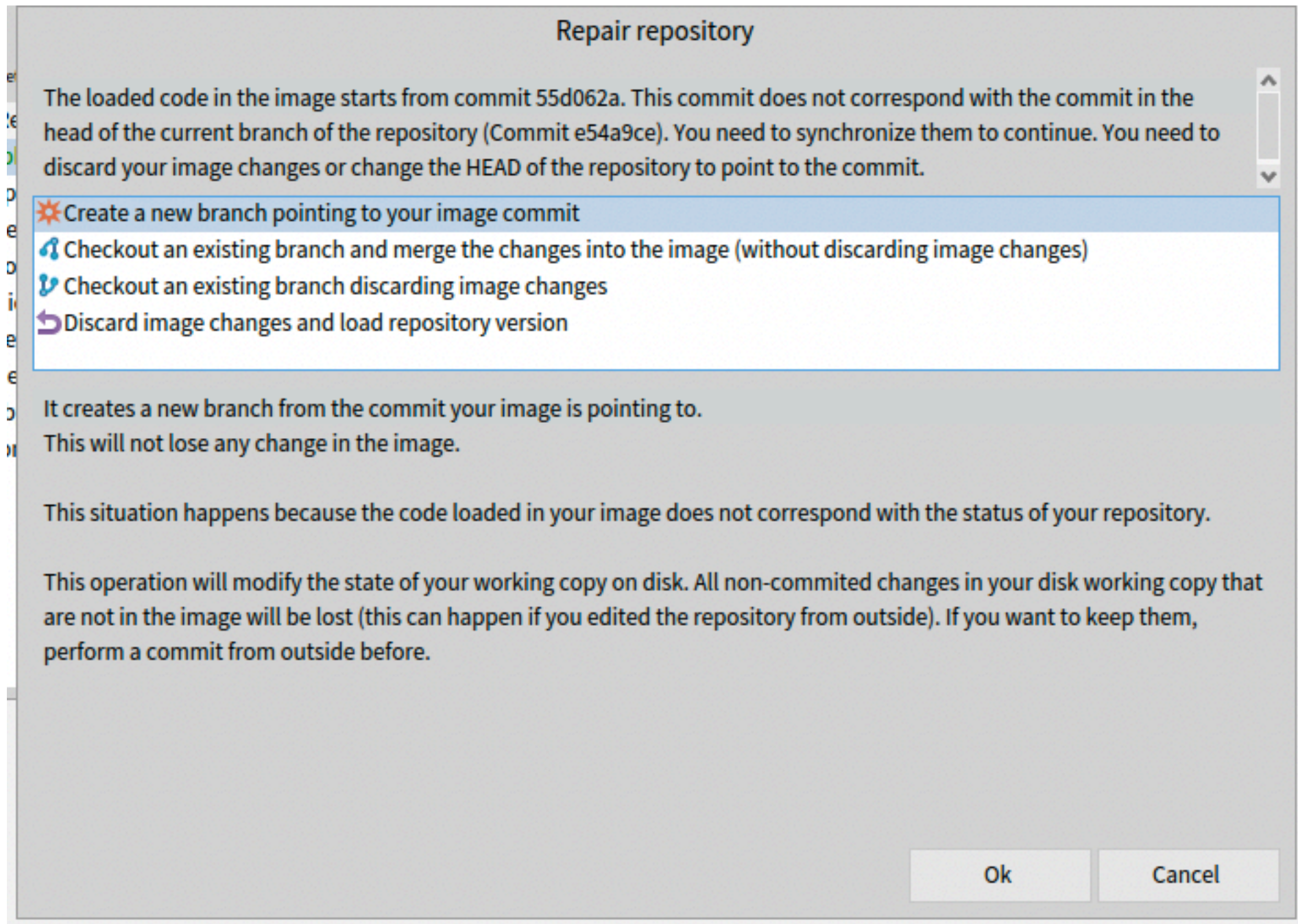


Repositories	Status	Branch
*pharo	Detached Working Copy	11526-Refactoring2-core-should-be-merge-
Spec2	Local repository missing	Unknown
NewTools	Local repository missing	Unknown
Roassal3	Local repository missing	Unknown
Microdown	Local repository missing	Unknown
BeautifulComments	Local repository missing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

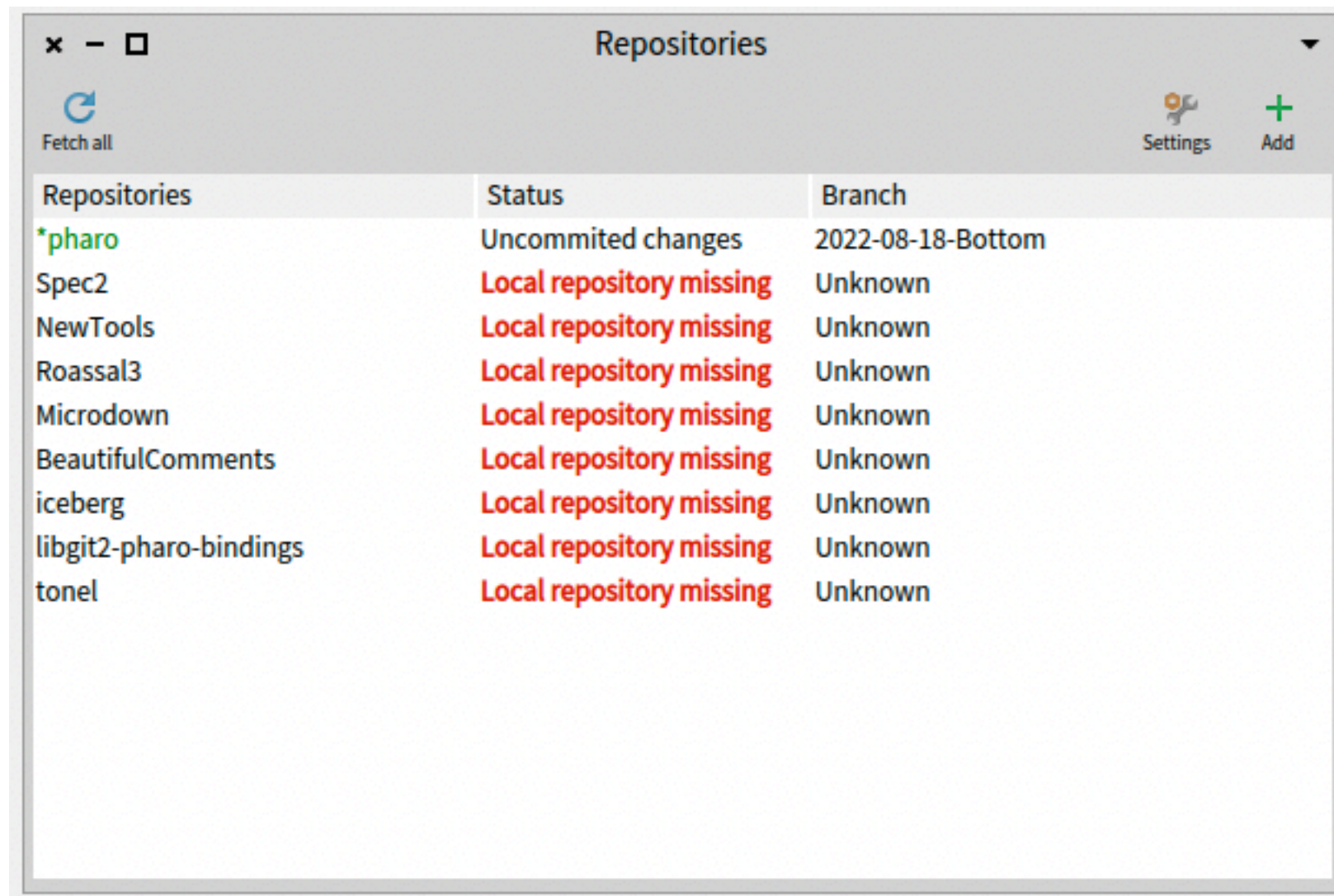
# Repair

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”

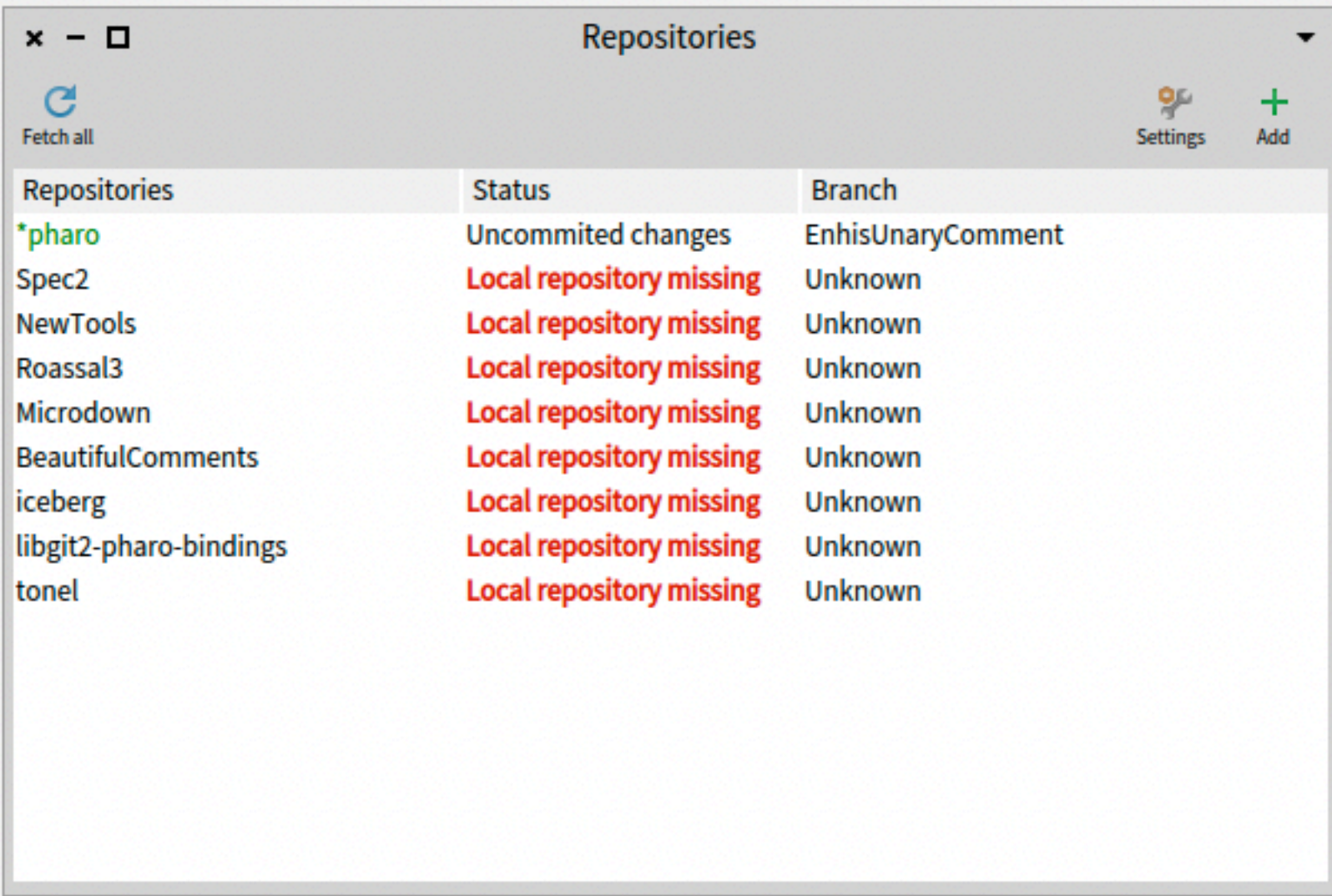


The screenshot shows a window titled "Repositories" with a toolbar at the top. The toolbar includes a "Fetch all" button (circular arrow icon) on the left, and "Settings" (wrench icon) and "Add" (plus icon) buttons on the right. Below the toolbar is a table with three columns: "Repositories", "Status", and "Branch".

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 top pane displays the class hierarchy for `Symbol` under the package `ManifestCollectionsStrings`. The `Symbol` class is selected, showing its subclasses: `ByteString`, `ByteSymbol`, `WideSymbol`, and `WideString`. The bottom pane shows the implementation of the `isUnary` method, which is a message selector. The implementation includes a comment and several test cases.

```
Symbol>>isUnary
```

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

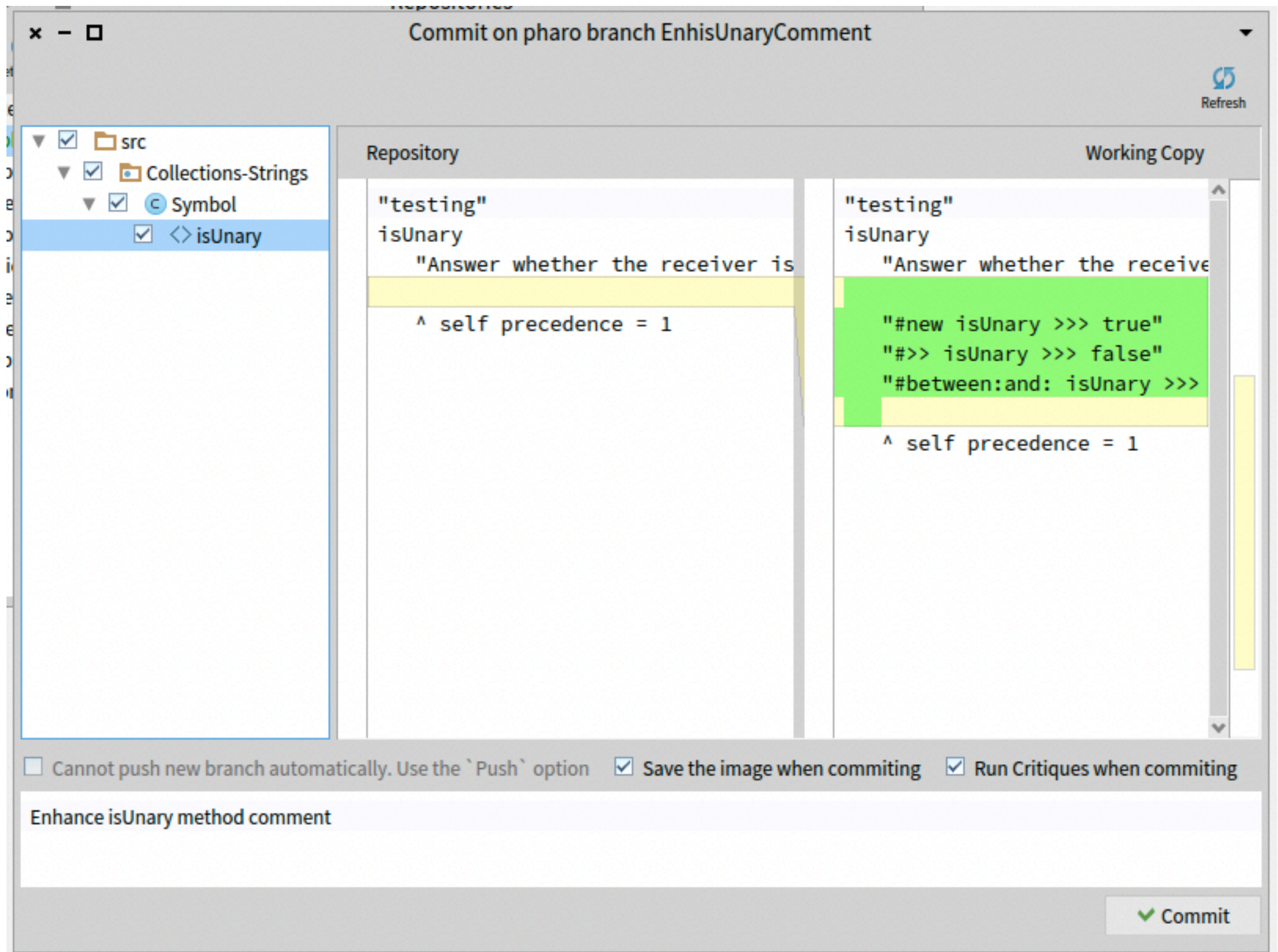
**isUnary**

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

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

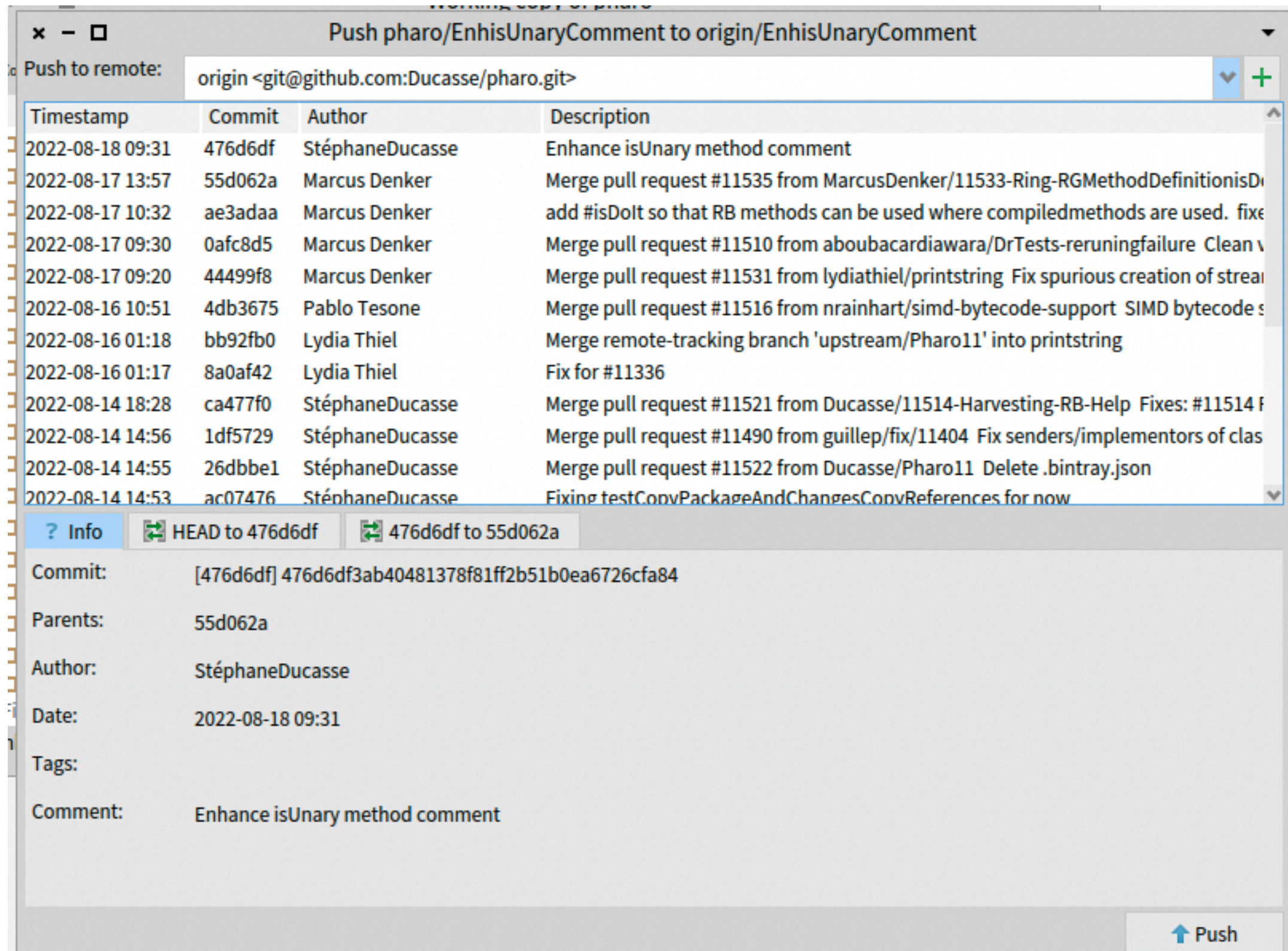
^ self precedence = 1
```

# Step: commit to your fork





# Step: Push to your fork



The screenshot shows a window titled "Push pharo/EnhisUnaryComment to origin/EnhisUnaryComment". The "Push to remote:" field is set to "origin <git@github.com:Ducasse/pharo.git>". Below this is a table of commit history, and at the bottom, a summary of the current commit being pushed.

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

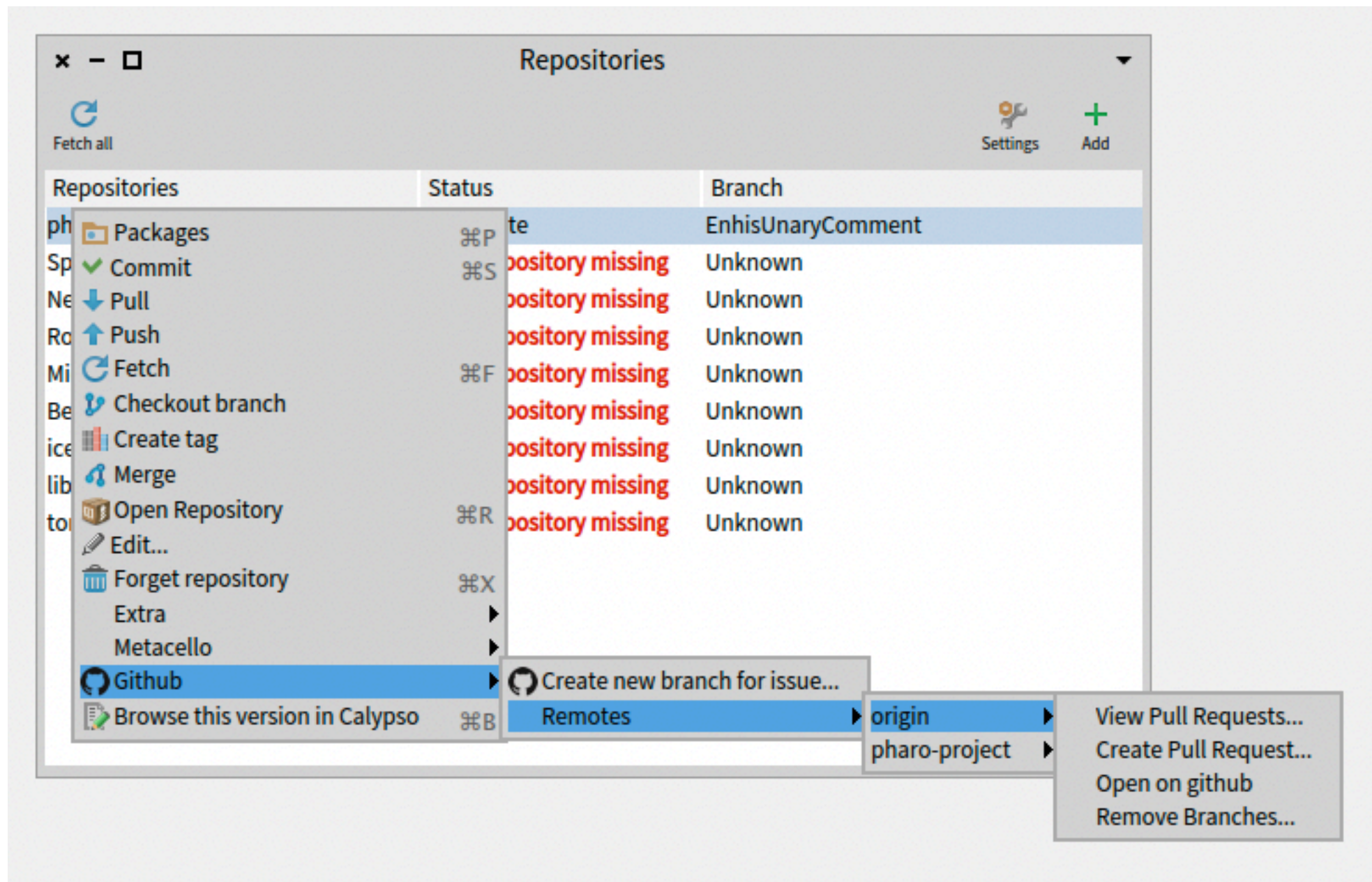
Date: 2022-08-18 09:31

Tags:

Comment: Enhance isUnary method comment

**Push**

# Step: Do a PR





# Step: Do a PR



Search or jump to...



Pull requests

Issues

Marketplace

Explore


 **Ducasse / pharo**


Public

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

 Unpin

 Watch 1 ▾

 **Code**


 Pull requests

 Actions


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 Wiki


 Security

 Insights

 Settings

 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](#)

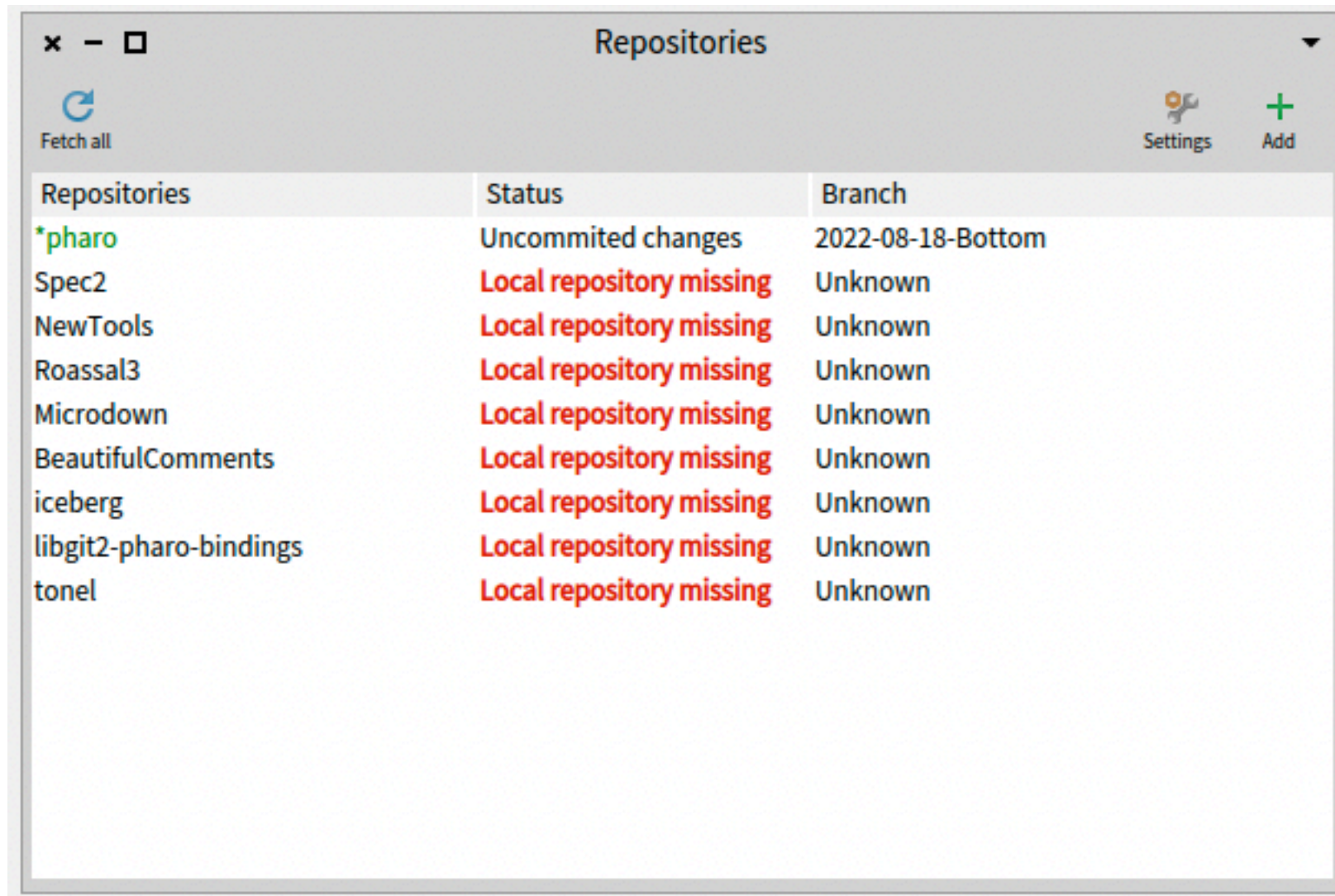
[Dismiss](#)





# 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 :) ]**