

TestView Plugin

A Nautilus Plugin to Facilitate Unit Testing

Overview

1. How to facilitate unit testing
2. Nautilus & TV Plugin
3. Comparison
4. Conclusion

1. How to facilitate unit testing

- View methods and tests side by side
- Test search
- Allow quick creation of new tests

2. Nautilus & TV Plugin

- Default system browser in the Pharo IDE
- TV Plugin is a Nautilus plugin to facilitate unit testing

RBScanner>>#next

Type: Pkg1|^Pkg2|Pk.*Core\$

- Last Modified Classes
- Most Viewed Classes
- Work
- AST-Core
- AST-Tests-Core
- Announcements-Core
- Announcements-Help

- RBParseTreeRewriter
- RBReadBeforeWrittenTe
- RBScanner
- RBPatternScanner
- RBStringReplacement
- RBToken
- RBAssignmentToken
- RBSortAssignmentTo

- all --
- accessing
- error handling
- initialize-release
- private
- private-scanning
- testing

- isReadable
- isWritable
- next
- nextPut:
- on:
- previousStepPosition
- scanAnySymbol
- scanBinary:

Groups Hierarchy **Class side** Comments

History Navigator

next

```

| token |
buffer reset.
tokenStart := stream position.
token := characterType = #eof
    ifTrue:
        [RBToken start: tokenStart + 1 "The EOF token should occur after the end of input"]
    ifFalse: [self scanToken].
self stripSeparators.
    
```

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The TestView Plugin

RBScanner>>#next

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- all --
- accessing
- error handling
- initialize-release
- private
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- testing

- errorPosition
- flush
- getComments
- isReadable
- isWritable
- next
- nextPut:
- on:

Groups Hierarchy Class side Comments

History Navigator

TestView Link class Unlink class select Testmethod

next

```
| token |
buffer reset.
tokenStart := stream position.
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  ifTrue:
    [RBToken start: tokenStart + 1 "The EOF token should occur after the end of input"]
  ifFalse: [self scanToken].
```

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3. Comparison

Viewing methods and tests side by side

String>>#asCamelCase

string ▾ String

Last Modified
Most Viewed
Work
Collections-S

ByteString
Symbol
ByteSym
WideSyn
WideString

-- all --
accessing
comparing
converting
copying
encoding
filter stream
...

asByteArray
asByteStr
asCamelCa
asClass
asClassIfA
asClassIfPr
asClassInEr
asClassInEr

Groups Hierarch ☐ Class Comm

History Navigator

asCamelCase

"Convert to CamelCase. Can be convenient in conjunction with #asLegalSelector

'A man, a plan, a canal, panama' asCamelCase.

'A man, a plan, a canal, panama' asCamelCase asLegalSelector.

'Here 123should % be 6 the name6 of the method' asCamelCase.

'Here 123should % be 6 the name6 of the

96

StringTest>>#testAsCamelCase

Type: Pkg111P ▾

Set Test
IdentityS
Pluggable
SortedColle
StringTest
SymbolTes
ByteSym
FIFOQueueTe

Collections-
Collections-
Collections-
Collections-
Collections1
Compiler
Compressio

test-compar
testing
testing - con
testing - form
testing - insta
testing - inter
testing - lines
testing - token

testAllButLa
testAsArray
testAsBag (
testAsCamel
testAsClass
testAsClassl
testAsClassl

Groups Hierarch ☐ Class Comm

History Navigator

testAsCamelCase

```
self assert: 'A man, a plan, a canal, panama' asCamelCase  
= 'AMan,APlan,ACanal,Panama'.
```

```
self assert: 'Here 123should % be 6 the name6 of the  
method' asCamelCase =  
'Here123should%Be6TheName6OfTheMethod'.
```

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String>>#asCamelCase

string

- Last Modified Classes
- Most Viewed Classes
- Work
- Collections-Strings

String

- ByteString
- Symbol
- ByteSymbol
- WideSymbol
- WideString

-- all --

- accessing
- comparing
- converting
- copying
- encoding
- filter streaming

asByteArray

asByteString

asCamelCase

asClass

asClassIfAbsent:

asClassIfPresent:

asClassInEnvironment:

asClassInEnvironmentIfAbsent:

Groups

Hierarchy

Class side

Comments

asCamelCase

"Convert to CamelCase. Can be convenient in conjunction with asClass.
'A man, a plan, a canal, panama' asCamelCase.

'A man, a plan, a canal, panama' asCamelCase asLegalSymbol

'Here 123should % be 6 the name6 of the method' asCamelCase

'Here 123should % be 6 the name6 of the method' asCamelCase

```
^ self class streamContents: [:stream |  
  self substrings do: [:sub |
```

History Navigator

String >>#asCamelCase

String >>#asClass

String >>#<

String

RBScanner >>#next

RBScanner >>#contents

RBScanner

RBScanner >>#flush

RBScanner

RBReplaceRule

String>>#asCamelCase

StringTest>>#testAsCamelCase

String>>#asClassIfPresent:

string

Last Modified Classes

Most Viewed Classes

Work

Collections-Strings

String

ByteString

Symbol

ByteSymbol

WideSymbol

WideString

*OSWindow-Core

*Polymorph-Widgets

*regex-core

*RPackage-SystemIntegrat

*Slot

asByteString

asCamelCase

asClass

asClassIfAbsent:

asClassIfPresent:

Groups

Hierarchy

Class side

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History Navigator

asClassIfPresent: presentBlock

"returns a global class with my name"

^ presentBlock cull: (self asClassIfAbsent: [^ nil])

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asCamelCase

"Convert to CamelCase. Can be convenient in conjunction with #asLegalSelector

'A man, a plan, a canal, panama' asCamelCase.

'A man, a plan, a canal, panama' asCamelCase asLegalSelector.

Here it should be the name of the method asCamelCase

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All current 1

String>>#asClassIfPresent:

StringTest>>#testAsCamelCase

With the TV Plugin

- In the same Nautilus window
- At the same time

RBScanner>>#next

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- on:

Groups

Hierarchy

Class side

Comments

TestView

Link class

Unlink class

History Navigator

RBScannerTest >>#testNextWithIdentifierTokenGetTh

next

```
| token |  
buffer reset.  
tokenStart := stream position.  
token := characterType = #eof  
ifTrue:  
    [RBToken start: tokenStart + 1 "The EOF  
token should occur after the end of input"] 178
```

testNextWithIdentifierTokenGetTheIdentifierToken

```
| source scanner token |  
  
source := 'identifierToken'.  
scanner := self buildScannerForText: source.  
token := scanner next.  
self assert: token isIdentifier.
```

RBScannerTest>>#testNextWit...

RBScanner>>#next

Nautilus' test search

- Nautilus' test search criteria
 - Inherits from *TestCase*
 - *Stack* => *StackTest*
 - *pop* => *testPop*
- *Only one test per method*

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self substrings do: [:sub |

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String>>#asCamelCase

RBScannerTest>>#testNextWit...

Test search of the TV Plugin

- Class level
 - Inherits from *TestCase*
 - *Stack* => *StackTest* , *TestStack* , *Teststack2*, etc.
 - *Customizable*
- *Method level*
 - *pop* => *testPop*, *popTest*, *poptest2*, etc.
 - Test should call *pop*

RBScanner>>#next

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Groups Hierarchy **Class side** Comments
 TestView Link class Unlink class

next

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178
  
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History Navigator

```

RBScannerTest >>#testNextWithAnIdentifierTokenGetThe
new Test
RBScannerTest >>#testNextWithAnIdentifierTokenGetThe
RBScannerTest >>#testNextWithAWrongSymbolGetError
RBScannerTest >>#testNextWithAnOpeningStringsGetError
RBScannerTest >>#testNextWithAnUnknownCharacterGet
RBScannerTest >>#testNextWithAnOpeningCommentGetF
scanner := self parseScannerOfText: source.
token := scanner next.
self assert: token isIdentifier.
  
```

Creating new tests

- In an existing test class
- In a new test class

String>>#asClassIfPresent:

string

Last Modified Classes
Most Viewed Classes
Work
Collections-Strings

String

ByteString
Symbol
ByteSymbol
WideSymbol
WideString

Groups

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asClassIfPresent: presentBlock

"returns a global class with my name"

^ presentBlock cull: (self asClassIfAbsent: [^ nil])

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assIfAbsent:

assIfPresent:

Refactoring

Rename method (all)

Find Method...

Browse full

Generate test and jump

Generate test

Senders of...

Implementors of...

Inheritance

Versions

Categorize method

Move to package...

Remove...

Compare two methods

Add in group...

Inspect Method

Toggle Bytecodes

File Out

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String>>#asClassIfPresent: StringTest>>#testAsCamelCase

RBScanner>>#next

Type: Pk01|^Pk02|Pk.*Core\$

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RBParseTreeRewriter
RBReadBeforeWrittenTes
RBScanner
RBPatternScanner
RBStringReplacement
RBToken

-- all --

accessing
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History Navigator

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RBScannerTest >>#testNextWithAWrongSymbolGetError

RBScannerTest >>#testNextWithAnOpeningStringsGetError

RBScannerTest >>#testNextWithAnUnknownCharacterGet

RBScannerTest >>#testNextWithAnOpeningCommentGetF

scanner := self parseScannerOfText: source.

token := scanner next.

self assert: token isIdentifier.

RBScannerTest>>#testNextWit...

RBScanner>>#next

4. Conclusions

- Proper support for unit testing is often lacking
- Developers are thus discouraged from writing tests
- Does the TV Plugin effectively encourage unit testing?

Where to get the TVPlugin?

- Search "TestView" on SmallTalkHub

Questions?