

A Little Journey in the Smalltalk Model

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A pure and minimal object model

Less is more!

No constructors

No types declaration

No interfaces

No packages/private/protected

No parametrized types

No boxing/unboxing

Still powerful



Objects are instances of Classes

Objects are instances of Classes

(10@200)

Objects are instances of Classes

(10@200) class

Objects are instances of Classes

(10@200) class
Point

Classes are objects too

Classes are objects too

Point selectors

Classes are objects too

Point selectors

```
> an IdentitySet(#eightNeighbors #+ #isZero #sortsBefore: #degrees #printOn: #sideOf: #fourNeighbors #hash
#roundUpTo: #min: #min:max: #max #adaptToCollection:andSend: #quadrantOf: #crossProduct: #=
#nearestPointOnLineFrom:to: #bitShiftPoint: #* #guarded #insideTriangle:with:with: #grid: #truncateTo: #y #setR:degrees:
#normal #directionToLineFrom:to: #truncated #nearestPointAlongLineFrom:to: #theta #scaleTo: #encodePostscriptOn:
#> #asPoint #extent: #r #roundTo: #max: #interpolateTo:at: #triangleArea:with: #angleWith: #dotProduct:
#isSelfEvaluating #'<=' #to:intersects:to: #'/' #isInsideCircle:with:with: #< #scaleFrom:to: #corner: #to:sideOf: #x #'>='
#roundDownTo: #onLineFrom:to:within: #transposed #ceiling #angle #basicType #translateBy: #asFloatPoint #'\'
#adaptToNumber:andSend: #abs #negated #octantOf: #asIntegerPoint #flipBy:centerAt: #scaleBy: #floor #onLineFrom:to:
#isPoint #reflectedAbout: #/ #dist: #asNonFractionalPoint #bearingToPoint: #reciprocal #rotateBy:centerAt:
#rotateBy:about: #rounded #setX:setY: #squaredDistanceTo: #normalized #veryDeepCopyWith: #- #storeOn: #rect:
#deepCopy #isIntegerPoint #min #adhereTo: #adaptToString:andSend:)
```

Classes are objects too

Point instVarNames

Classes are objects too

Point instVarNames

```
>#('x' 'y')
```

Methods are public

Instance variables are protected

Single Inheritance

Single Inheritance

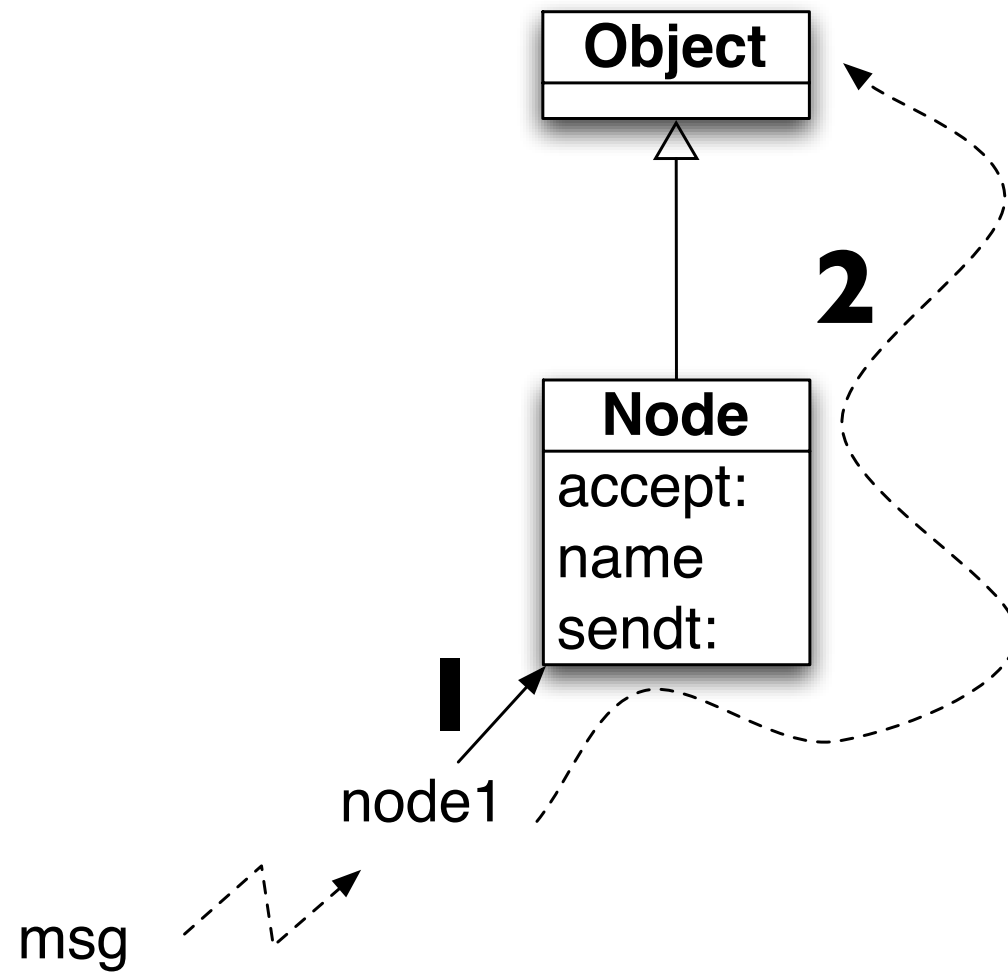
Object subclass: **#Point**

instanceVariableNames: '**x y**'

classVariableNames: "

poolDictionaries: "

category: 'Graphics-Primitives'



Classes are objects too

Classes are objects too

Point class

Classes are objects too

Point class

>Point class

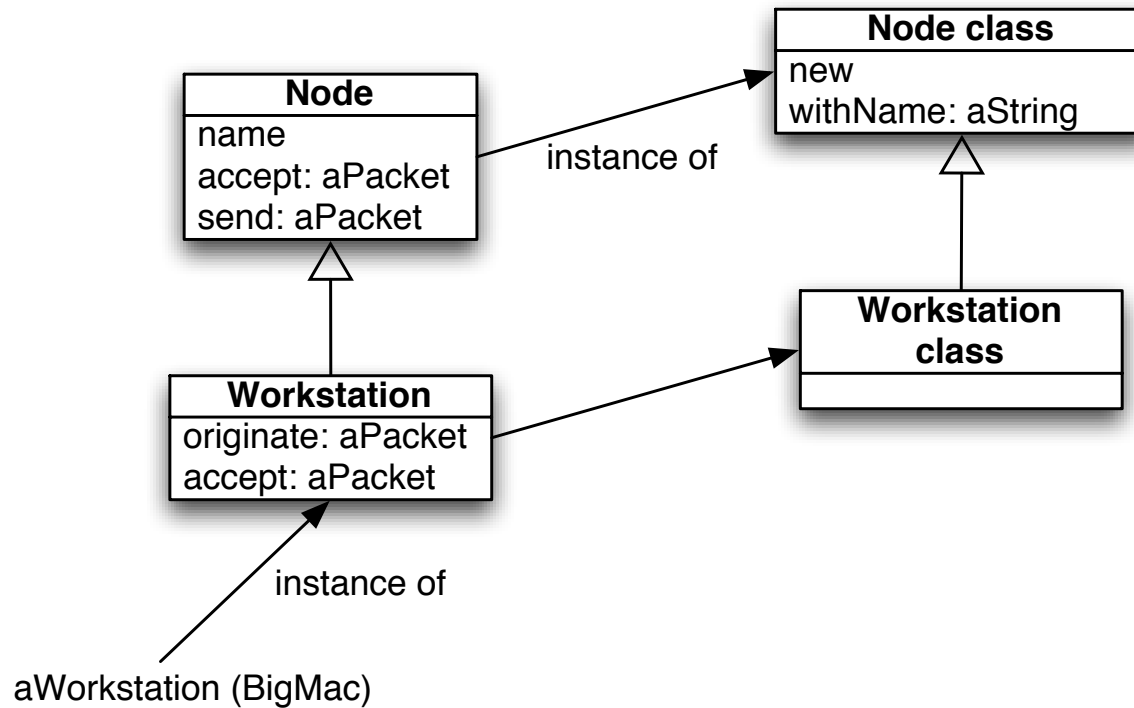
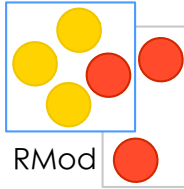
Classes are objects too

Point class

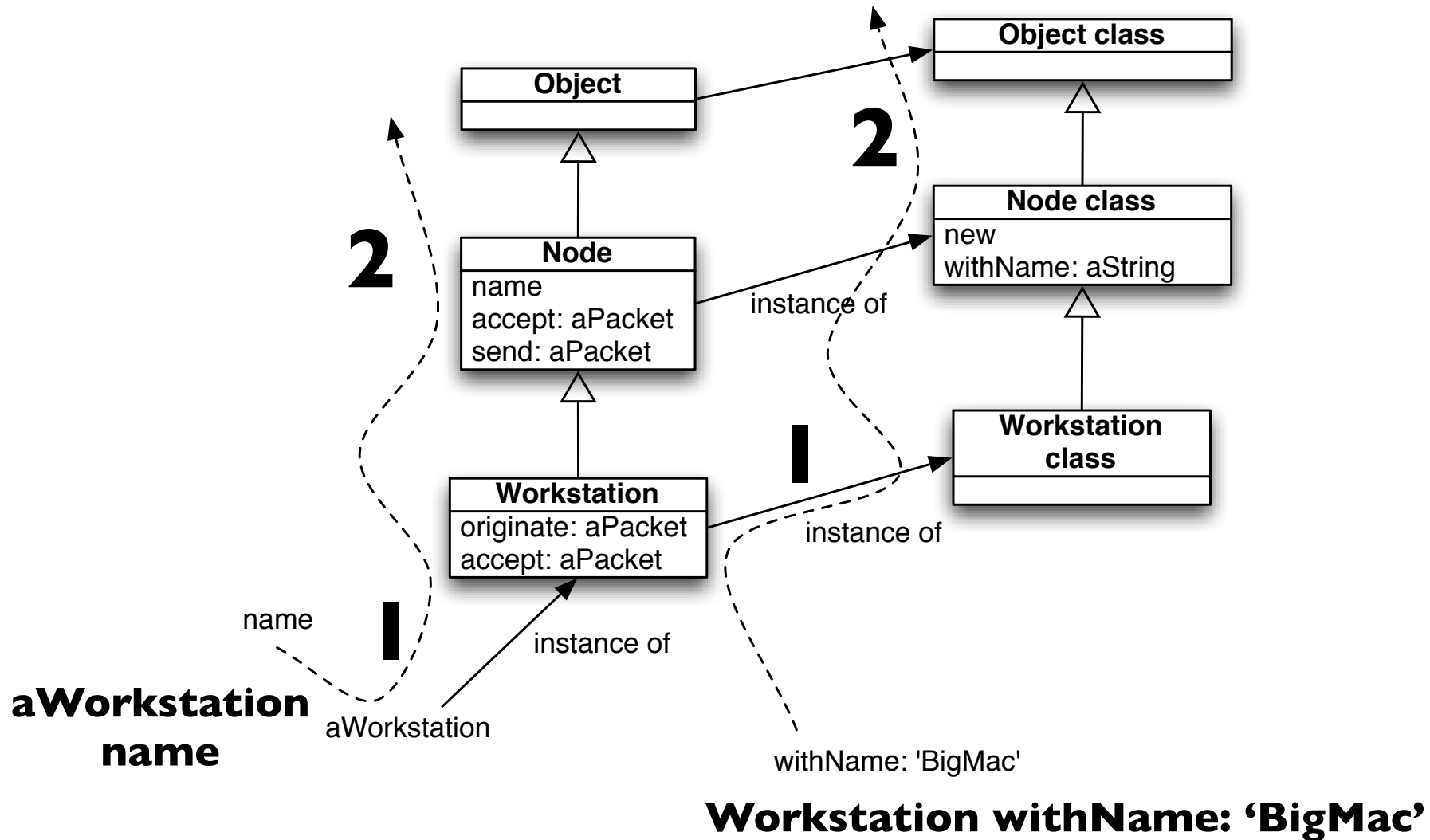
>Point class

“Point class” is an anonymous class with only one instance: Point

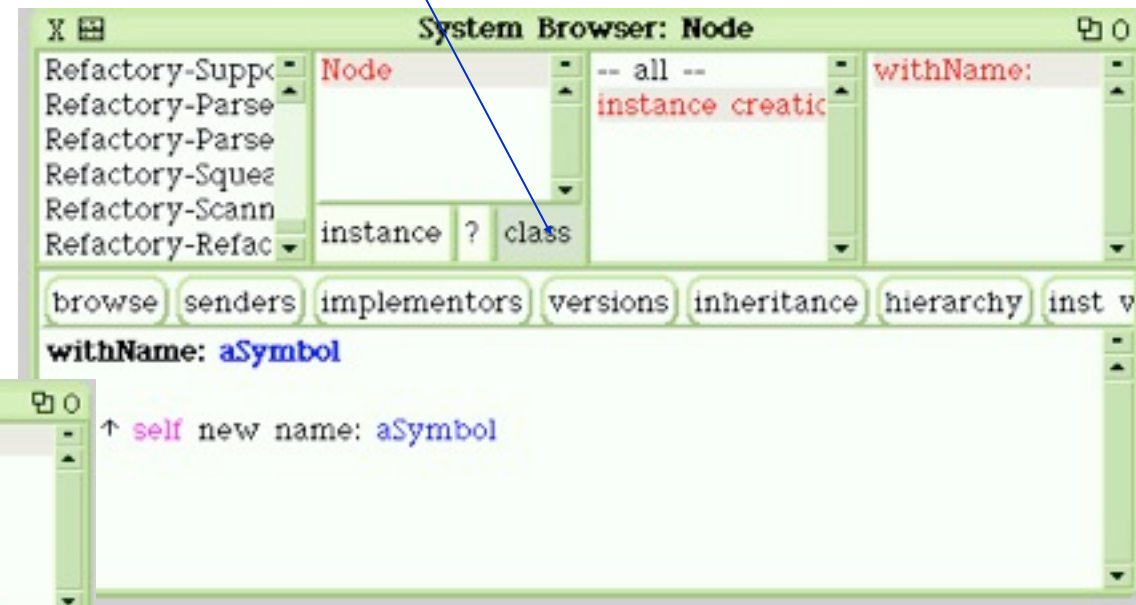
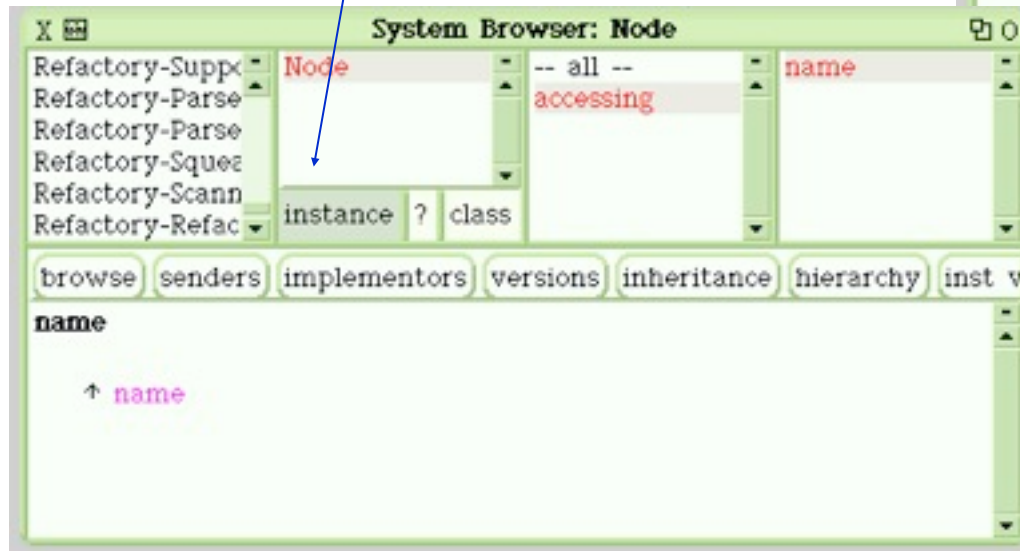
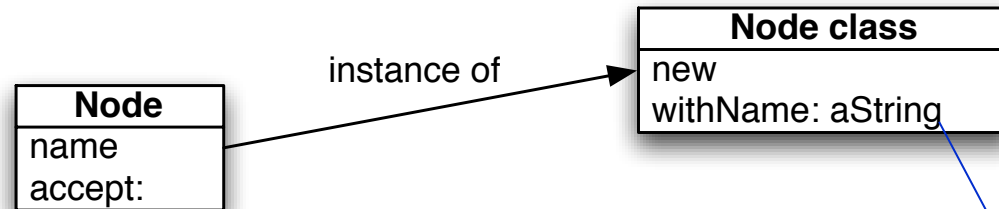
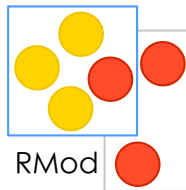
Class Parallel Inheritance



Lookup and Class Methods



About the Buttons



Summary



- Everything is an object
- One single model
- Single inheritance
- Public methods
- Protected attributes
- Classes are simply objects too
- Class is instance of another class
- One unique method lookup
look in the class of the receiver