

Open Komodo: An Open Source IDE For Open Languages

Own Your IDE

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History

- Perl for Windows
- Active Python, Komodo
- ~~A~~nti-Spam Digression
-
- Refocus on Developer Tools

Contradiction? Origins



Agenda

- Ruby and Rails Support
- OpenKomodo
- Zooming In

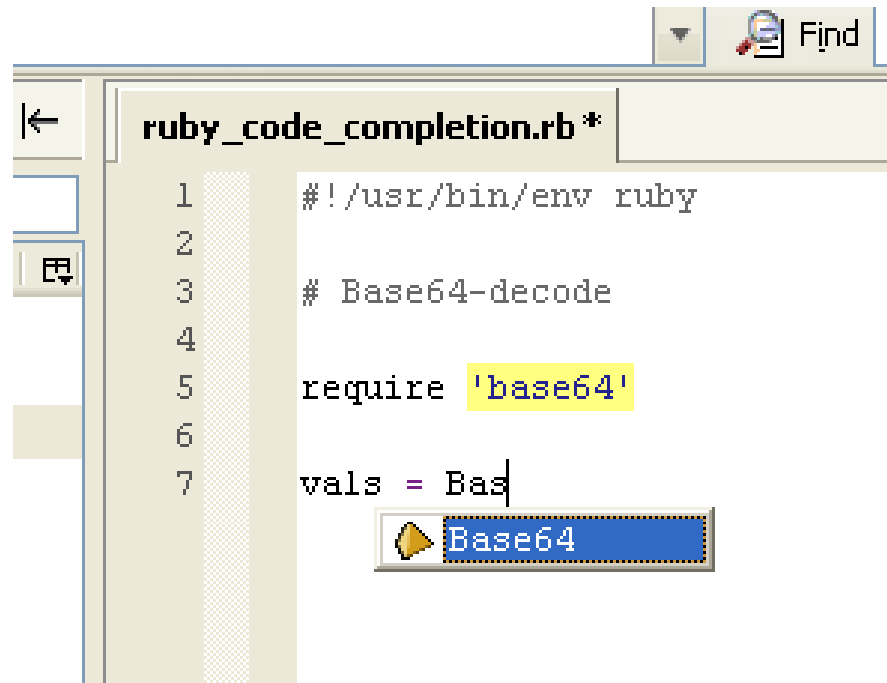
☐ Komodo Philosophy

- ☐ Balance of Helpfulness
-
- Projects Are Optional

Ruby Support

- Ruby-Aware Auto-Indentation
-
- Soft Characters
-
- Code Completion
 - Their Stuff
 - Your Stuff
-

Complete Known Names

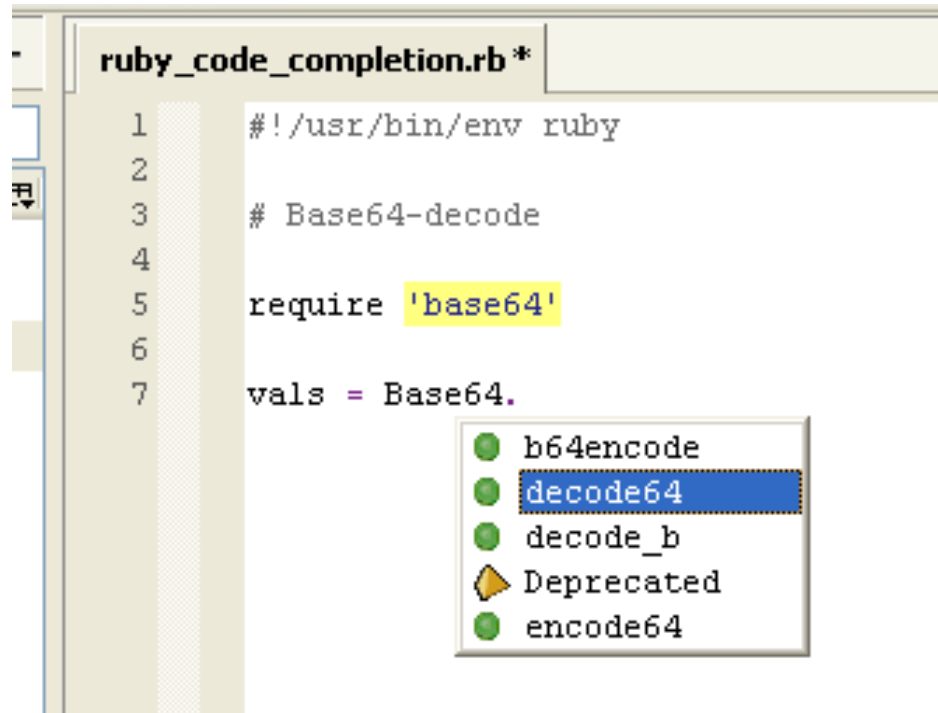


The screenshot shows an IDE window titled 'ruby_code_completion.rb *'. The code is as follows:

```
1  #!/usr/bin/env ruby
2
3  # Base64-decode
4
5  require 'base64'
6
7  vals = Bas
```

A completion popup menu is visible below the cursor, showing a single option: 'Base64'.

Walk Library Objects



The screenshot shows a code editor window titled "ruby_code_completion.rb*". The code is as follows:

```
1  #!/usr/bin/env ruby
2
3  # Base64-decode
4
5  require 'base64'
6
7  vals = Base64.
```

A completion menu is open below the code, listing the following methods:

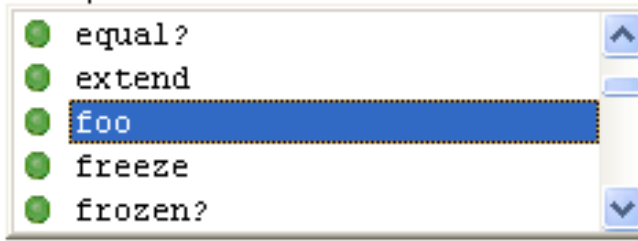
- b64encode
- decode64
- decode_b
- ⚠ Deprecated
- encode64

Call Tips

```
ruby_code_completion.rb *  
1  #!/usr/bin/env ruby  
2  
3  # Base64-decode  
4  
5  require 'base64'  
6  
7  vals = Base64.decode64(  
    (str)  
    Returns the Base64-decoded version of str.
```

Your Own Code

```
8
9  module M
10  class MyClass
11  def foo(a, b)
12  'xyz'
13  end
14  end
15  end
16
17  obj = M::MyClass.new
18  obj.f
```



Troubleshoot

```
12 |         'xyz'  
13 |     end  
14 | end  
15 | end  
16 |  
17 | obj = M::MyClass.new  
18 | obj.foo(3, 1)  
19 |  
20 | end  
21 |
```

syntax error, unexpected kEND, expecting \$end

Rails Support: Goals

- Avoid the Command-Line for Routine activities
 - Generate & Migrate
 - Test
 - Debug
 - Run
 - SCC

Useful Tools

- [Firefox JavaScript Debugger](#)
- [HTTP Inspector](#)
- [DOM Inspector](#)
- [Unit Test Integration](#)
- [Rx Toolkit](#)

Visualizing Redirects: Before

The screenshot shows the HTTP Inspector window with the following details:

- Title:** HTTP Inspector: Listening on localhost:8081
- Buttons:** Stop, Request, Response, Clear Rules, Help
- Table:**

State	Time	Duration	Method	Status	Size	Content	URL
▶	18:00:50	4.894	POST	302 (Fo...	96	text/html;...	http://localhost:300...
- Request Section:**
 - Command: POST
 - URL: http://localhost:3000/movies
 - Header Table:

Header Name	Header Value
accept	text/xml,application/x...
accept-charset	ISO-8859-1,utf-8;q=0...
accept-encoding	gzip,deflate
accept-language	en-us,en;q=0.5
content-length	116
content-type	application/x-www-for...
cookie	Buzzilla_product=Ko...
- Response Section:**
 - Version: 1.1
 - Status: 302
 - Header Table:

Header Name	Header Value
cache-control	no-cache
connection	close
content-length	96
content-type	text/html; charset=u...
 - Status: Waiting to submit...
 - Buttons: Submit, Revert
- Body Section:**
 - Request body: 1 authenticity_token=b66d91b1154df6
 - Response body: 1 <html><body>You are being <a h

Visualizing Redirects: After

The screenshot shows the HTTP Inspector interface. The top toolbar includes buttons for Stop, Request, Response, Clear Rules, and Help. Below the toolbar is a table of captured requests and responses:

State	Time	Duration	Method	Status	Size	Content	URL
	18:00:50	4.894	POST	302 (Fo...	96	text/html;...	http://localhost:300...
	18:02:54	3.760	GET	200 (OK)	1307	text/html;...	http://localhost:300...

The main area is split into Request and Response sections. The Request section shows a GET request to `http://localhost:3000/movies/6`. The Response section shows a 200 OK response with version 1.1. Below these sections are two tables of headers:

Header Name	Header Value
accept	text/xml,application/x...
accept-charset	ISO-8859-1,utf-8;q=0...
accept-encoding	gzip,deflate
accept-language	en-us,en;q=0.5
cookie	Bugzilla_product=Ko...
host	localhost:3000
keep-alive	300

Header Name	Header Value
cache-control	private, max-age=0,...
connection	close
content-length	1307
content-type	text/html; charset=u...

At the bottom, there are two code editors. The left editor shows the request body (empty), and the right editor shows the response body, which is an HTML document header:

```
1 <!DOCTYPE html PUBLIC "-//W3C//  
2 .....  
3 "http://www.w3.org/TR/xl
```

Rails Support: Deploying

- Specify Servers
- Edit Remote Files
- Remote Folders in Projects
- One Size Doesn't Fit All

The Komodo Family



The Komodo Family

- Komodo IDE
- Komodo Edit
- OpenKomodo : MPL GPL LGPL

Why Open It

- Unique in its underlying technology
- Built with the same languages we support
- Build a foundation, let many build on top
- Mozilla: Open, Cross-Platform

Use It

- <http://www.openkomodo.com>

Extend It

- Macros
- Extensions
- Hack the Source

Build Something

- Komodo IDE
- Snapdragon
- Mozpad
- ?

How did we get here?

- 1994: Netscape 1.0 Beta
- 1995: IE 2.0 Released
- Jan 1998: Netscape Open-Sources Client
- What does this have to do with developer tools?

Mozilla: Timing is Everything

- Seamonkey and MAS too “90s”
- Firefox and Thunderbird Follow Unix Philosophy

Built on Standards

- XUL isn't too foreign
- JavaScript is everyone's second language

Other Apps

- Flock
- Sunbird
- Camino
- Songbird
- Joost
- Hackety-Hack

Even Microsoft Buys In

- Windows Application Framework
 - Based on XAML
 - XAML based on XUL

Programmers' Tools Matter

- OpenKomodo is the right technology at the right time

Community Matters

- Every platform needs one
- Case Study: Visual Basic
 - "Support statement for Visual Basic 6.0 on ... Vista"
 - Visual Studio .Net (7.0) Q & A

Openness Matters

- Hard to grow a community without empowering people
- Extension contest showed people could use it without large amounts of documentation

And Now For Something More Technical...



What Exactly *Is* Mozilla

- XUL
- JS
- CSS

Mozilla Components

- NSPR
- Gecko
- Necko
- XPCOM
- XPConnect
- XBL

Komodo Under the Hood

- Chrome - front-end -- src/chrome
- PyXPCOM back-end -- src/
- Over 20 FOSS components in contrib/
 - Scintilla
 - XML and HTML resources
- IDL files - src/* and sdk/
 - Over 260 files

Interfaces & Implementations

Search

<http://grok.openkomodo.com/source/xref/>

<http://lxr.mozilla.org/mozilla1.8/>

Write Macros

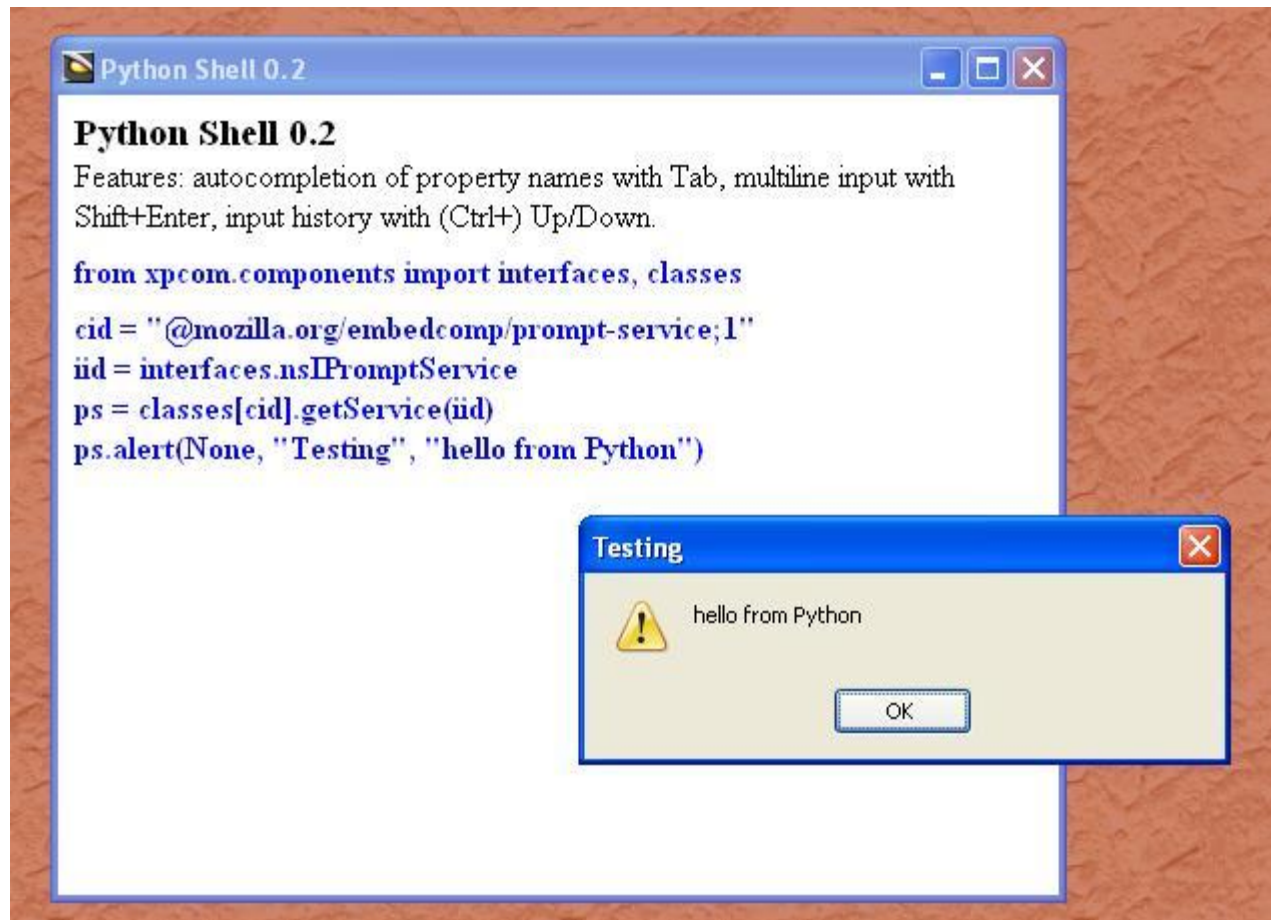
Samples in Toolbox

Subset of API in Help

Experiment with JavaScript Shell

- <http://community.activestate.com/komodo-extension/komodo-developer-extension>





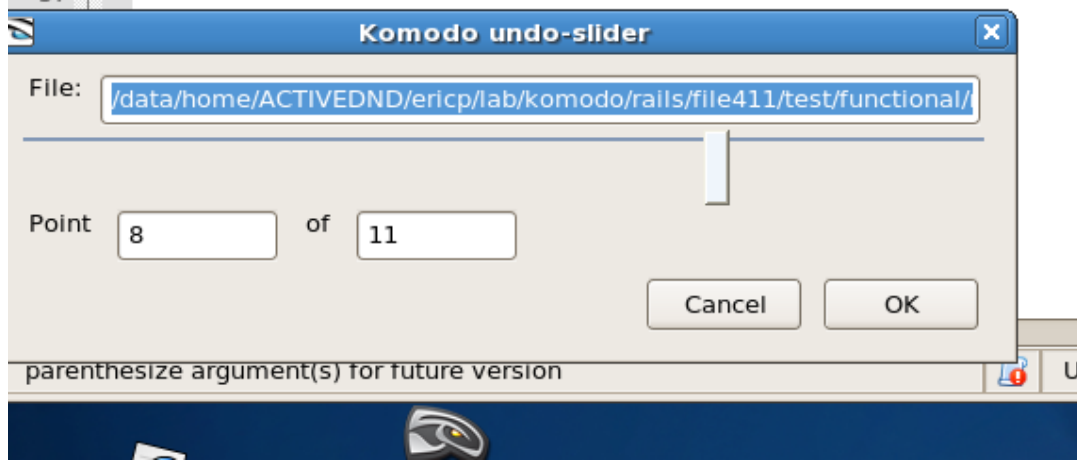
Python or JavaScript?

- JS code handles controller and view
- Python better suited for special cases

Writing Extensions

- Hello-world
- Komodo "Komodo Extension Template"
- Steeper Leaning Curve than Macros
 - Graphical UI Adds an Extra Dimension


```
25 ..... assert_response :success
26 ..... end
27
28 ..... def examine_should_get_edit
29 .....   get :edit, :id => movies(:one).id
30 .....   assert_response :success
31 ..... end
32
33 ..... def examine_should_update_movie
34 .....   put :update, :id => movies(:one).id, :movie => { }
35 .....   bet that redirected to movie_path(assigns(:movie))
36 ..... end
37
```



Getting Started

Komodo Extension configuration

Extension Options

Name:

Version:

Description:

Author:

Domain:

Home Page:

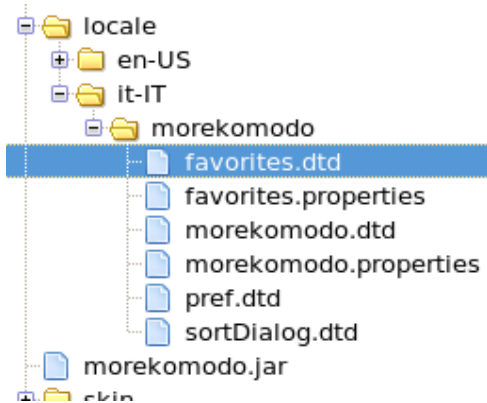
Extension Id: **myextension@yourdomain.org**

- ├── build
 - ├── chrome.manifest
 - ├── content
 - ├── overlay.xul
 - ├── undoslider.js
 - ├── undoslider.xul
 - └── undosliderLaunch.js
 - ├── install.rdf
 - ├── LICENSE.txt
 - ├── Project
 - ├── Build
 - ├── Configure
 - ├── extension_lib
 - └── setup.xul
 - ├── skin
 - ├── sliderBack.png
 - └── undoslider.css
 - └── undoslider-0.1-ko.xpi
- myext.kpf**
- ├── chrome.manifest
 - ├── content
 - ├── install.rdf
 - └── Project

UI expressed in XML

- `overlay id=%extension_name%Overlay ...`
 - `commandset id=allcommands`
 - `command id=Tasks:HelloWorld`
`oncommand="alert('Hello world')"`
 - `menupopup id=popup_tools`
 - `MenuItem id=menu_%extension_name%`
`label=%extension_nice_name%`
`observes="Tasks:HelloWorld"`
`class="menu-iconic-wide"`

I18n



```
21 <!ENTITY addFolder.button.label "Altra cartella...">
22 <!ENTITY addFolder.accesskey "t">
23
24 <!ENTITY remove.button.label "Rimuovi">
25 <!ENTITY remove.accesskey "r">
26
27 <!ENTITY edit.button.label "Modifica...">
28 <!ENTITY edit.accesskey "m">
29
30 <!ENTITY favorites.tree.label "Lista File">
31 <!ENTITY description.from.path.label "Usa Nome Per Descr.">
32 <!ENTITY description.from.path.accesskey "U">
```

chrome.manifest

- `content undoslider jar:undoslider.jar!/content/
xpcnativewrappers=yes`
-
- `overlay chrome://komodo/content/komodo.xul
chrome://undoslider/content/overlay.xul`
-
- `skin undoslider classic/1.0
jar:undoslider.jar!/skin/`

Monkeypatching your IDE

JavaScript

- `String.prototype.shuffle = function(s) {
 var a = s.split("");
 a.sort(function() {
 return 0.5 - Math.random(); });
 return a.join("");
}`

JavaScript Cautions

- Komodo doesn't modify JS classes
- Avoids loading third-party libraries
- Other extensions might

Namespaces

- ko - global object
- Be consistent
- Declare everything

Monkeypatching via Hooks

- Function `addModifiedHandler(view)` {
 `gOrigH = view.onModifiedHandler;`
 `view.onModifiedHandler = function(...)` {
 ...
 if (typeof(gOrigH) == "function") {
 `gOrigH(...);`
 }
 }
}

What about Ruby XPCOM?

- <http://rbxpcom.mozdev.org/index.html>
- Version 0.0.4

Getting the source

- <http://www.openkomodo.com>
- SVN

Searching the source

- [http://grok.openkomodo.com/
source/xref](http://grok.openkomodo.com/source/xref)

Resources

- <http://www.openkomodo.com>
- <http://community.activestate.com>
- irc://moznet/#komodo
- <http://blogs.activestate.com/ericp>
- ericp@activestate.com