

# Leveraging Ruby Libraries

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(I wrote this)



O'REILLY®

# Head First Ruby

A Brain-Friendly Guide



Get more  
done with  
less code



Do heavy lifting  
easily with blocks



Avoid  
embarrassing  
OO mistakes



Master the Ruby  
Standard Library



Bend your mind around  
XX Ruby exercises



Serve your  
web app  
to the world

Jay McGavren

# Summary

- **Intro: What is Ruby? Installing Ruby. [We'll keep it brief.]**
- **Core classes (always loaded): String, Array, Hash**
- **Standard library (ships with Ruby, load explicitly): CSV, ERB, YAML**
- **Gems (third party libraries): lolcat, Rails, Sinatra**

# Summary

- This isn't a step-by-step guide
- More of a taste of what's possible
- Video will be posted in a few days, code along with that!
- (Better yet, buy Head First Ruby!)

**Intro**

# What is Ruby?

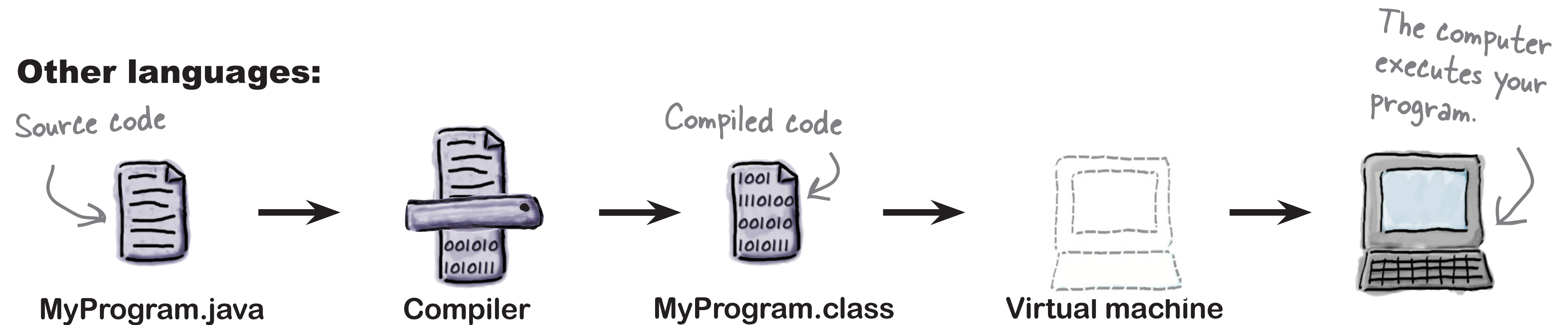
(for those just now learning)

- Focused on developer happiness
- Easy to learn and use
- Gives the programmer less stress
- Doesn't fight you!

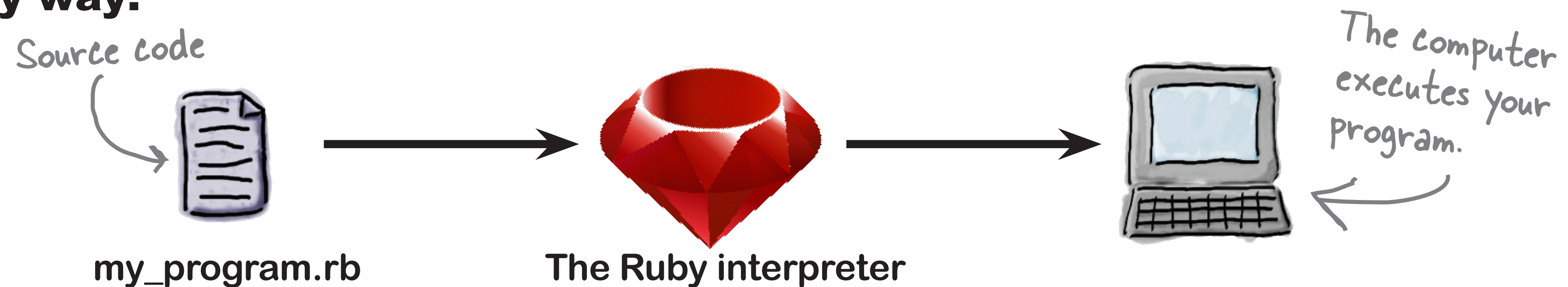


# No separate compile step

## Other languages:



## The Ruby way:



# Core Classes

- Automatically loaded every time you launch Ruby.
- Examples:
  - String "Hello world"
  - Array [1710, 2.6, 2245, 3032, 400]
  - Hash {"H" => 1, "Li" => 3, "Na" => 11}



**Other core classes:**

Array	BasicObject	Bignum	Binding	Class
Complex	Dir	Encoding	Enumerator	Exception
Fiber	Fixnum	Float	Hash	Integer
IO	MatchData	Method	Module	Mutex
NilClass	Numeric	Object	Proc	Random
Range	Rational	Regexp	String	Struct
Symbol	Thread	ThreadGroup	Time	TracePoint

# Methods on Array class:

&	each_index	repeated_combination	uniq!	lazy
*	empty?	repeated_permutation	unshift	map
+	eql?	replace	values_at	max
-	fetch	reverse	zip	max_by
<<	fill	reverse!	[From Enumerable:]	member?
<=>	find_index	reverse_each	all?	min
==	first	rindex	any?	min_by
[]	flatten	rotate	chunk	minmax
[]=	flatten!	rotate!	collect	minmax_by
abbrev	frozen?	sample	collect_concat	none?
any?	hash	select	count	one?
assoc	include?	select!	cycle	partition
at	index	shelljoin	detect	reduce
bsearch	initialize_copy	shift	drop	reject
clear	insert	shuffle	drop_while	reverse_each
collect	inspect	shuffle!	each_cons	select
collect!	join	size	each_entry	slice_after
combination	keep_if	slice	each_slice	slice_before
compact	last	slice!	each_with_index	slice_when
compact!	length	sort	each_with_object	sort
concat	map	sort!	entries	sort_by
count	map!	sort_by!	find	take
cycle	pack	take	find_all	take_while
dclone	permutation	take_while	find_index	to_a
delete	pop	to_a	first	to_h
delete_at	product	to_ary	flat_map	to_set
delete_if	push	to_h	grep	zip
drop	rassoc	to_s	group_by	
drop_while	reject	transpose	include?	
each	reject!	uniq	inject	

# Standard Library

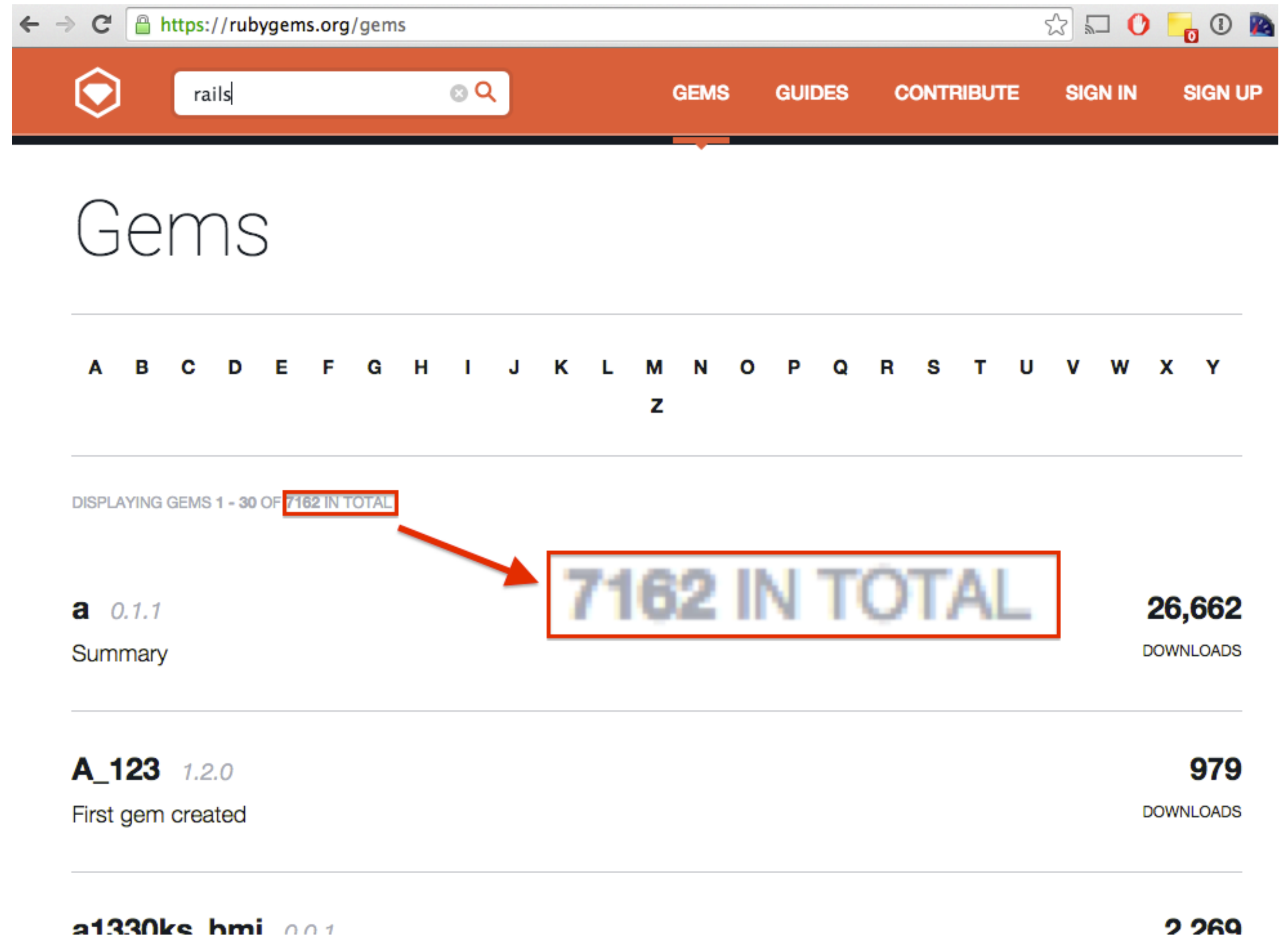
- **Classes that ship with Ruby, but you need to explicitly load**
- **Examples:**
  - **ERB: Insert data into text or HTML templates**
  - **JSON: Parse JSON data into Ruby arrays and hashes**
  - **YAML: A plain-text format for saving and loading Ruby objects**

# Other standard library classes:

Abbrev	Delegator	IPAddr	Net::Telnet	PStore	UDPSocket	TSort
Base64	Digest::MD5	IRB	NKF	PTY	StringIO	URI
Benchmark	Digest::SHA1	JSON	Observable	Readline	StringScanner	WeakRef
BigDecimal	DRb	Logger	OpenURI	REXML	Syslog	WEBrick
CGI	ERB	Matrix	Open3	Rinda	Tempfile	WIN32OLE
Complex	Fiber	MiniTest	OpenSSL	Ripper	Test::Unit	XMLRPC::Client
Coverage	Fiddle	Monitor	OptionParser	RSS	Thread	XMLRPC::Server
CSV	FileUtils	Net::FTP	OpenStruct	Set	ThreadWait	YAML
Curses	Find	Net::HTTP	Pathname	Shellwords	Time	ZLib
Date	Forwardable	Net::IMAP	PP	Singleton	Timeout	
DateTime	GetoptLong	Net::POP3	PrettyPrint	TCPServer	Tk	
DBM	GServer	Net::SMTP	Prime	TCPSocket	Tracer	

# Ruby Gems

- Libraries written by third parties
- Examples:
  - Rails: Popular web framework
  - Jekyll: Plain-text blogging platform
  - Gosu: Game development library



## Gem categories (from <http://ruby-toolbox.com>):

Active Record Plugins

Background Processing

Code Quality

Communication

Content Management & Blogging

CSS

Data Persistence

Developer Tools

Documentation Tools

Documents & Reports

E-Commerce and Payments

Fun

Graphics

HTML & Markup

JavaScript

Maintenance & Monitoring

Package & Dependency Management

Provision, Deploy & Host

Rails Plugins

Security

Testing

Time & Space

Web Apps, Services & Interaction

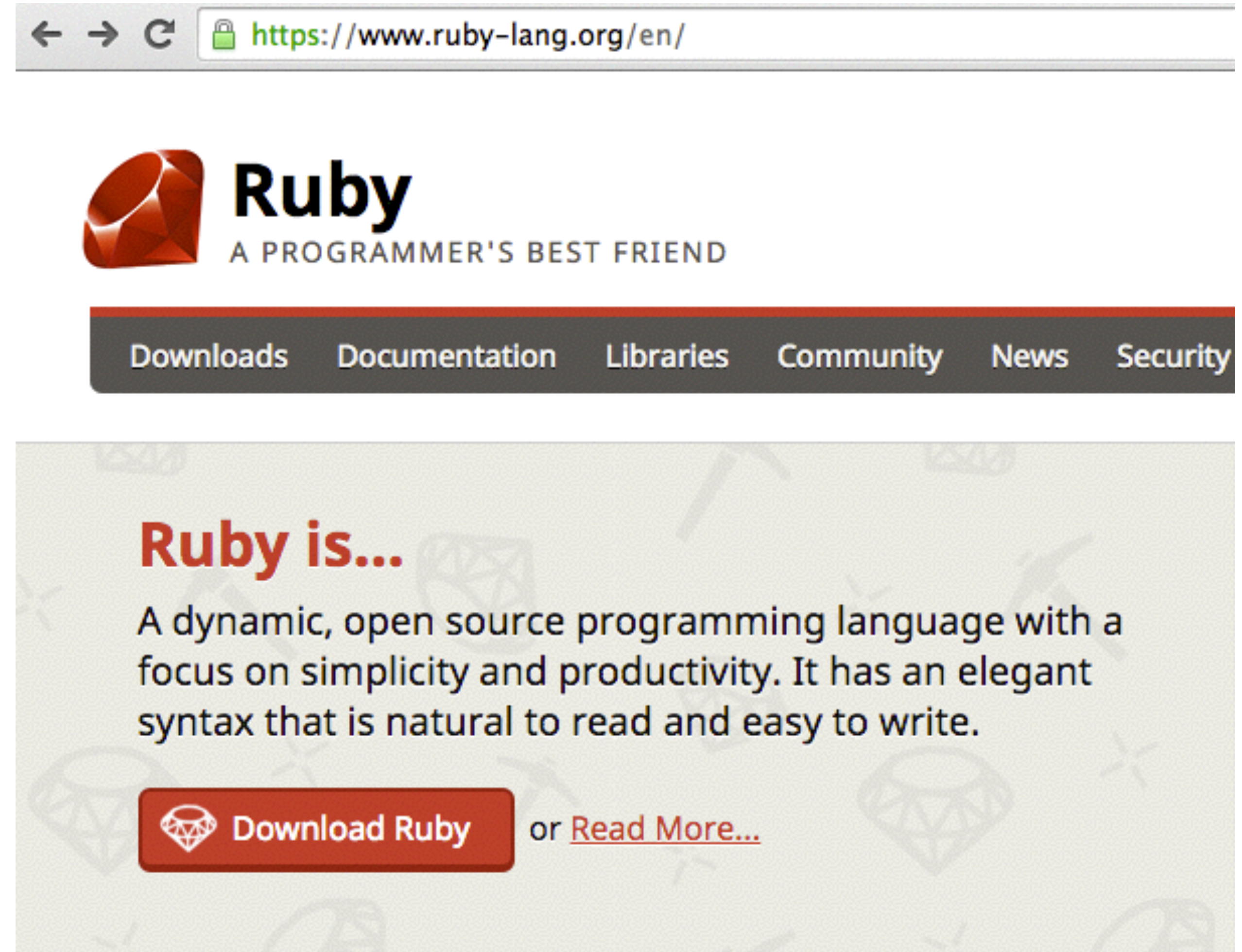
## Download and install gems (and their dependencies) with a single command!

```
$ gem install sinatra
Fetching: rack-1.6.4.gem (100%)
Successfully installed rack-1.6.4
Fetching: rack-protection-1.5.3.gem (100%)
Successfully installed rack-protection-1.5.3
Fetching: tilt-2.0.2.gem (100%)
Successfully installed tilt-2.0.2
Fetching: sinatra-1.4.7.gem (100%)
Successfully installed sinatra-1.4.7
4 gems installed
```



# Setup

Install Ruby, from <http://ruby-lang.org>



# Setup

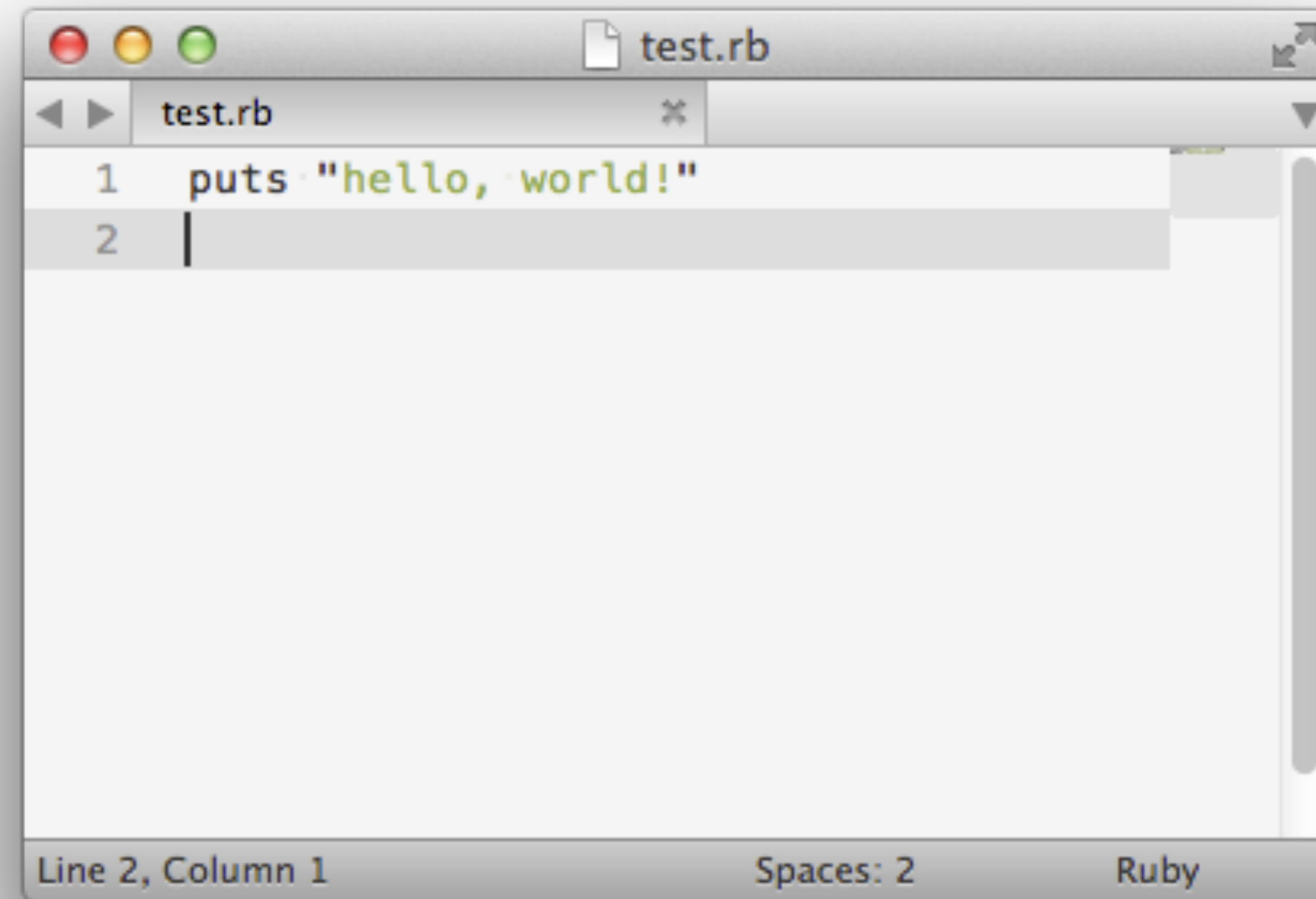
## Install the Sinatra gem

```
$ gem install sinatra
Fetching: rack-1.6.4.gem (100%)
Successfully installed rack-1.6.4
Fetching: rack-protection-1.5.3.gem (100%)
Successfully installed rack-protection-1.5.3
Fetching: tilt-2.0.2.gem (100%)
Successfully installed tilt-2.0.2
Fetching: sinatra-1.4.7.gem (100%)
Successfully installed sinatra-1.4.7
4 gems installed
```

# Setup

You'll need a text editor for writing code. Some examples:

- **Windows:** Notepad++, Sublime Text
- **Mac OSX:** Sublime Text, vim, emacs
- **Linux:** Sublime Text, vim, emacs



Save your file with a .rb extension and run it:

```
$ cd my/folder/  
$ ruby test.rb  
hello, world!
```

# And now, to the terminal!

- Ruby syntax (just enough to let us understand later code)
- Core classes (always loaded): String, Array, Hash
- Standard library (ships with Ruby, load explicitly): CSV, ERB, YAML
- Gems (third party libraries): lolcat, Rails, Sinatra