

# Ruby in prijatelji

Oto Brglez za #wwwhmb



# Kontakt in vprašanja

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- skype: zverchi
- <http://opalab.com>
  
- @wwhmb, #wwhmb, [wwhmb.si](http://wwhmb.si)

# Kdo sem?

- Razvijalec
- Veliki projekti, mali projekti, “free” projekti
- (Izredni) Študent ;)
- LinkedIn:  
<http://www.linkedin.com/in/otobrglez>

# Za koga je ta talk?

- Razvijalece, ki so že programirali.
- Razvijalece, ki rabijo nove izzive.
- Ljudi, ki iščejo zabavo in srečo.\*

# Potek

- Ruby - (uvod, splošno, kako?, itd...)
- Prijatelji (DSL, ogrodja, Rails,...)

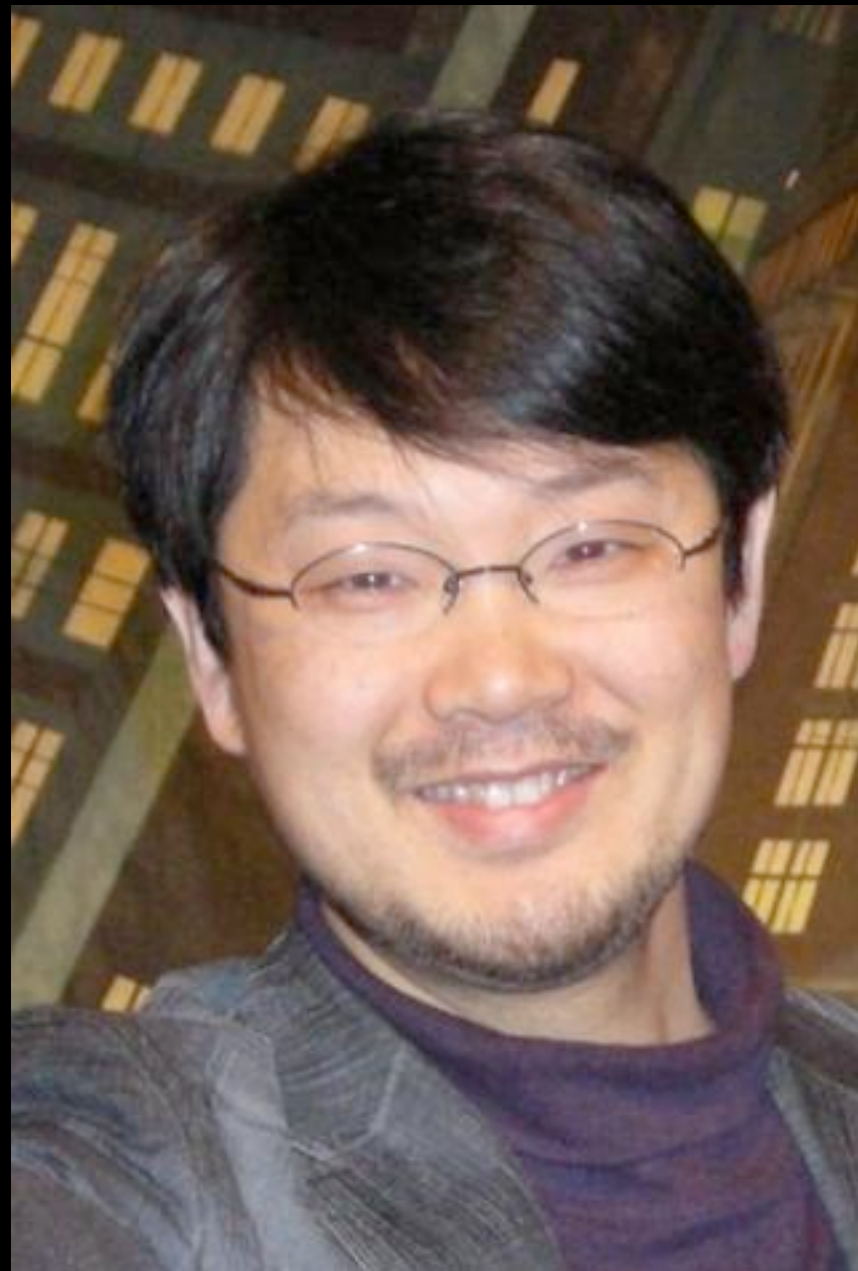
# Ruby ~ Zgodovina

Yukihiro Matsumoto -

@yukihiro\_**matz**

Japonska 1990

21 december 1995 ~> Ruby 1.0



# Klasifikacija in inspiracija

- Dinamičen
- Reflektiven
- Splošen
- Objektno orientiran
- Inspiracija PERL, Smalltalk, Eiffel

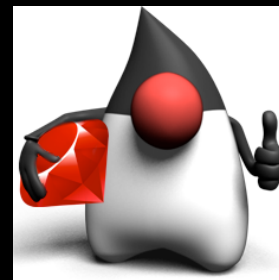
# Paradigme

- Funkcijski
- Objektno orientiran
- Imperativen
- Reflektiven
- Dinamični tipi (Duck typing)



# Implementacije

- MRI (C by Matz)
- YARD
- JRuby
- Rubinius
- IronRuby
- MacRuby
- HotRuby



# Namestitev?

- OSX ~> Prednameščen
- Ubutnu and alike ~> apt-get ...
- Windows ~> <http://rubyinstaller.org/>
- <http://www.ruby-lang.org>

# RVM = Ruby Version Manager

```
3. bash
otobrglez@~/ruby-talk: rvm list

rvm rubies

jruby-1.5.6 [ x86_64-java ]
jruby-1.6.1 [ darwin-x86_64-java ]
macruby-0.10 [ x86_64 ]
macruby-0.8 [ x86_64 ]
ruby-1.8.7-p330 [ x86_64 ]
ruby-1.8.7-p334 [ x86_64 ]
ruby-1.9.1-p378 [ x86_64 ]
=> ruby-1.9.2-head [ x86_64 ]
ruby-1.9.2-p136 [ x86_64 ]
ruby-1.9.2-p180 [ x86_64 ]

otobrglez@~/ruby-talk: rvm --rvmrc --create 1.9.2@ruby-talk
WARN: .rvmrc is not empty, moving aside to preserve.
otobrglez@~/ruby-talk: █
```

# RubyGems

```
3. bash
otobrglez@~/ruby-talk: gem list

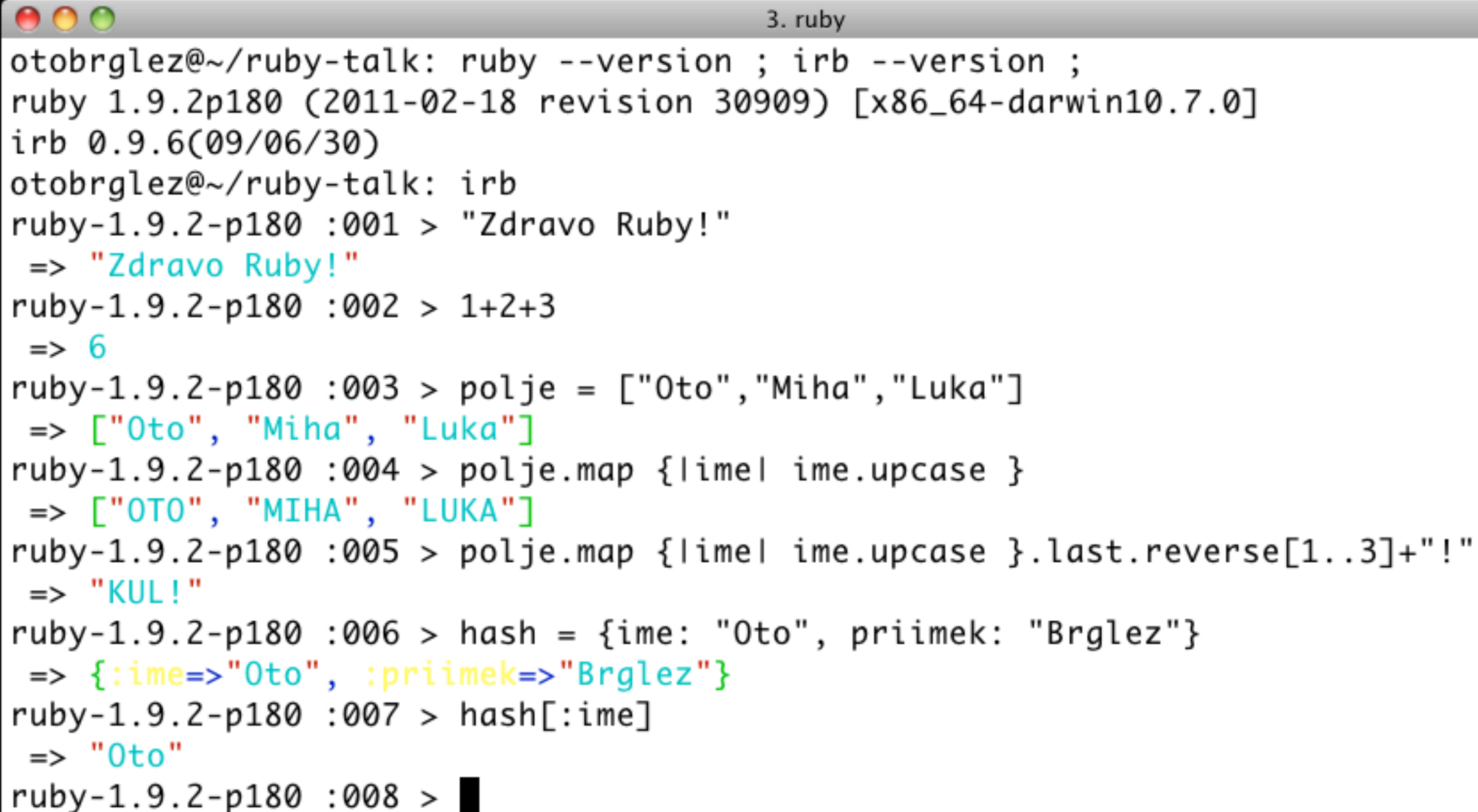
*** LOCAL GEMS ***

rake (0.8.7)
rdoc (3.6.1)
otobrglez@~/ruby-talk: gem install wirble
Fetching: wirble-0.1.3.gem (100%)
Successfully installed wirble-0.1.3
1 gem installed
Installing ri documentation for wirble-0.1.3...
Installing RDoc documentation for wirble-0.1.3...
otobrglez@~/ruby-talk: gem list

*** LOCAL GEMS ***

rake (0.8.7)
rdoc (3.6.1)
wirble (0.1.3)
```

# IRB = Interactive Ruby Shell



```
otobrglez@~/ruby-talk: ruby --version ; irb --version ;
ruby 1.9.2p180 (2011-02-18 revision 30909) [x86_64-darwin10.7.0]
irb 0.9.6(09/06/30)
otobrglez@~/ruby-talk: irb
ruby-1.9.2-p180 :001 > "Zdravo Ruby!"
=> "Zdravo Ruby!"
ruby-1.9.2-p180 :002 > 1+2+3
=> 6
ruby-1.9.2-p180 :003 > polje = ["Oto", "Miha", "Luka"]
=> ["Oto", "Miha", "Luka"]
ruby-1.9.2-p180 :004 > polje.map { |ime| ime.upcase }
=> ["OTO", "MIHA", "LUKA"]
ruby-1.9.2-p180 :005 > polje.map { |ime| ime.upcase }.last.reverse[1..3]+"!"
=> "KUL!"
ruby-1.9.2-p180 :006 > hash = {ime: "Oto", priimek: "Brglez"}
=> {:ime=>"Oto", :priimek=>"Brglez"}
ruby-1.9.2-p180 :007 > hash[:ime]
=> "Oto"
ruby-1.9.2-p180 :008 > 
```

# Vejitve, zanke, funkcije,...

```
1 #!/usr/env/ruby -w
2
3 ime = "Oto"
4
5 if ime == "Oto"
6   puts "Zdravo Oto!"
7 elsif ime == "Miha"
8   puts "Hey Miha"
9 else
10  puts "Hey!"
11 end
```

Line: 11 Column: 4 Ruby Soft Tabs

```
1 #!/usr/env/ruby -w
2
3 stevila = [1,2,3,4]
4
5 stevila.each do |s|
6   puts s
7 end
8
9 stevila.each {|s| p s}
```

Line: 5 Column: 5 Ruby on... Soft Tabs

```
1 #!/usr/env/ruby -w
2
3 def pozdrav(ime="Miha")
4   return "Zdravo "+ime
5 end
6
7 def pozdrav2 ime="Miha"
8   "Zdravo #{ime}"
9 end
10
11 puts pozdrav
12 puts pozdrav("Oto")
13 puts pozdrav "Janez"
```

Line: 6 Column: 1 Ruby Soft Tabs

# String, Array[], Hash{},...

```
1 ime = "oto"
2
3 puts ime.reverse
4 # "otO"
5 puts ime.reverse!
6 # "otO"
7 puts ime.upcase
8 # "OTO"
9 puts ime.cound "O"
10 # 2
11 puts ime[1,2].concat "!"
12 # "TO!"
13
14 if ime =~ /(oto|Miha)/i
15   puts "Not again..."
16 end
```

Line: 16 Column: 4 Ruby on... Soft Tabs

```
1 polje = []
2 polje << 1
3 polje << 99
4 polje << -50
5
6 puts polje.inspect
7 # [1, 99, -50]
8
9 puts polje.max
10 puts polje[0..1].sum
11 # 100
12
13 sum = polje.inject(0) do |s,i|
14   s + i
15 end
16
17 puts sum # 50
```

Line: 17 Column: 14 Ruby on... Soft Tabs

```
1 moj_hash = Hash.new
2 moh_hash2 = {}
3
4 jaz={ime:"oto",priimek:"Brglez"}
5 kekec={ime:"Kekec",priimek:"Podpec"}
6
7 puts jaz[:ime] # oto
8 jaz[:born] = 1987
9
10 puts jaz
11
12 # Polje Hash-ov
13 imena = [jaz,kekec]
14 imena.last[:priimek] # Podpec
15
16 # Old syntax (Ruby < 1.9.x)
17 hash_x = {
18   :ime => "Janez",
19   :priimek => "Novak"
20 }
```

Line: 16 Column: 13 Ruby on... Soft Tabs

# Razredi in OOP

```
oseba.rb
1 class Oseba
2
3   attr_accessor :ime
4
5   def initialize ime, priimek
6     @ime, @priimek = ime, priimek
7   end
8
9   def priimek= value
10    @priimek = value
11  end
12
13  def priimek
14    @priimek
15  end
16
17  def to_s
18    "#{self.ime} #{self.priimek}"
19  end
20 end
```

Line: 15 Column: 6 Ruby on... Soft Tabs

```
student.rb
1 class Student < Oseba
2   attr_accessor :ind, :predmeti
3
4   def initialize ime, priimek, ind=nil
5     super ime, priimek
6     @ind = ind
7     @predmeti = []
8   end
9
10  def to_s
11    "#{super.to_s}, #{self.ind}"
12  end
13
14  def method_missing(m, *a, &block)
15    if m =~ /ima_(.+)\?/
16      @predmeti.include? Regexp.last_match(1)
17    end
18  end
19 end
```

Line: 12 Column: 6 Ruby on... Soft Tabs

```
4. ruby
>> require "./student"
=> true
>> Student.superclass
=> Oseba
>> s = Student.new "Oto", "Brglez"
=> Oto Brglez,
>> s.ind = "936..."
=> "936..."
>>
?> s.predmeti = ["MAT", "STAT", "RKO"]
=> ["MAT", "STAT", "RKO"]
>>
?> s.ima_RKO?
=> true
>>
?> s.ima_FILOZOFIJA?
=> false
>>
?> s.class
=> Student
>>
```



# Dedovanje, Mixin,...

```
zaposlitev.rb
1 module Zaposlitev
2   attr_accessor :zaposlen
3
4   def initialize ime,priimek
5     super ime,priimek
6     @zaposlen = true
7   end
8
9   def zaposlen?
10    @zaposlen
11  end
12 end
13
14 class Delavec < Oseba
15   include Zaposlitev
16 end
```

Line: 8 Column: 3 Ruby on... Soft Tabs

```
string_x.rb
1 class String
2   def dolzina
3     self.length
4   end
5 end
```

Line: 5 Column: 4 Ruby on... Soft Tabs

```
4. ruby
>> d = Delavec.new "Oto","Brglez"
=> Oto Brglez
>> d.zaposlen = false
=> false
>> d.zaposlen?
=> false
>>
?> d.to_s
=> "Oto Brglez"
>>
?> d.to_s.methods.include? :dolzina
=> true
>>
?> d.to_s.dolzina
=> 10
>>
```

# ruby-debug19



```
3. ruby
otobrglez@~/ruby-talk: ruby program_a.rb
program_a.rb:11
puts d.to_s
(rdb:1) l
[6, 15] in program_a.rb
6
7 d = Delavec.new "Oto","Brglez"
8
9 debugger
10
=> 11 puts d.to_s
(rdb:1) p d
Oto Brglez
(rdb:1) p d.ind
NoMethodError Exception: undefined method `ind' for Oto Brglez:Delavec
(rdb:1) p d.class
Delavec
(rdb:1) c
```

```
program_a.rb
1 require "./oseba"
2 require "./student"
3 require "./zaposlitev"
4
5 require "ruby-debug"
6
7 d = Delavec.new "Oto","Brglez"
8
9 debugger
10
11 puts d.to_s
Line: 11 Column: 12 Ruby on...
```

# ri, rdoc

```
5. ruby
= String#count

(from ruby site)
-----
-----
str.count([other_str]++) -> fixnum
-----
-----

Each other_str parameter defines a set of characters
to
count. The intersection of these sets defines the c
haracters to count in
str. Any other_str that starts with a caret (^) is
negated. The sequence c1--c2 means all characters be
tween c1 and c2.

a = "hello world"
a.count "lo"           #=> 5
a.count "lo", "o"      #=> 2
a.count "hello", "^l"  #=> 4
a.count "ej-m"         #=> 4

(END)
```

RDoc Documentation

file:///Users/otobrglez/ruby-ti Google

Apple Yahoo! Google Maps YouTube

## RDoc Documentation

This is the API documentation for 'RDoc Documentation'.

### Classes/Modules

- ♥ Delavec
- ♥ Object
- ♥ Oseba
- ♥ String
- ♥ Student
- 📦 Zaposlitev

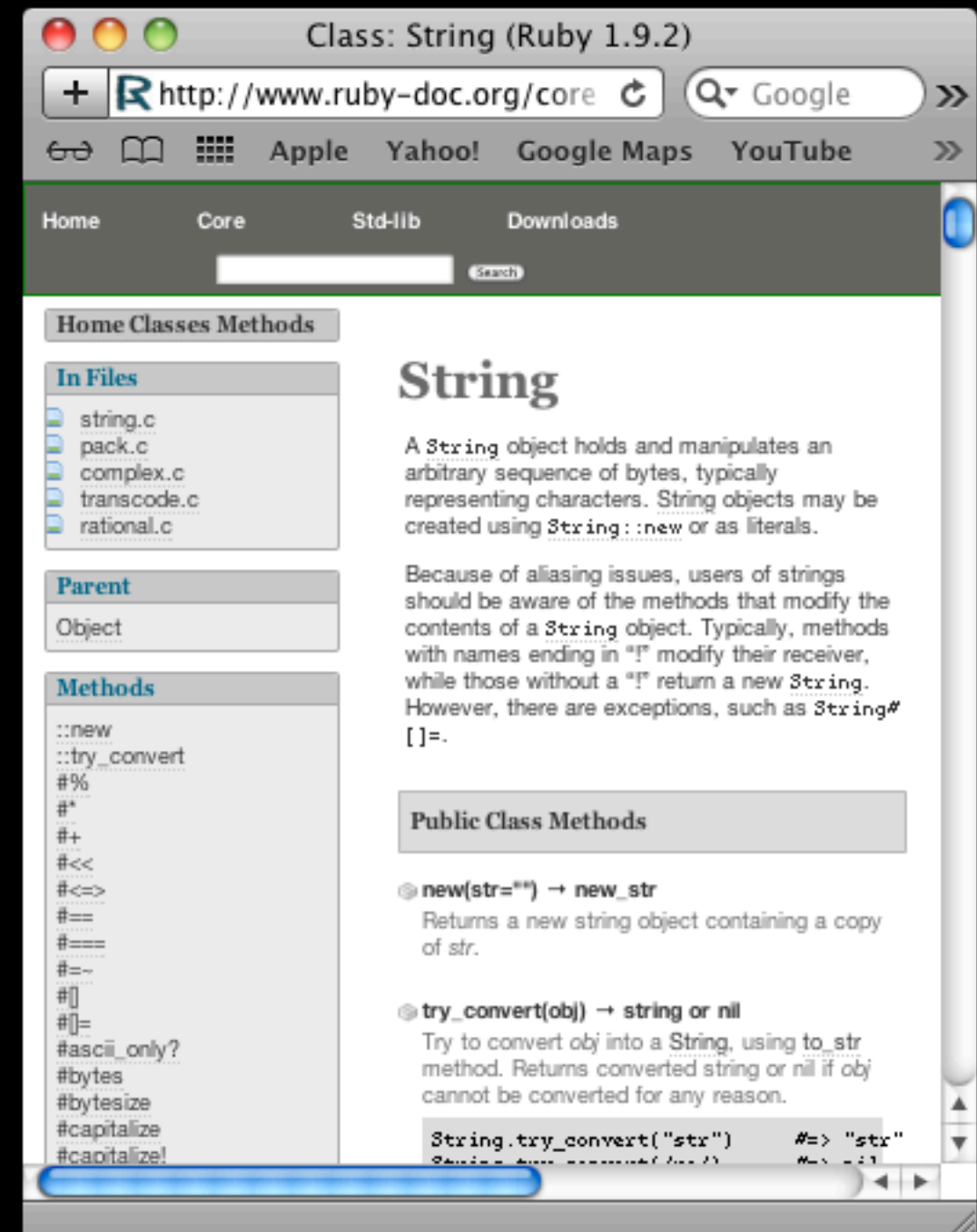
### Methods

- ::new — Student
- ::new — Zaposlitev
- ::new — Oseba
- #dolzina — String

One error in opening the page. For more information, choose Window >

# Ruby Reference/doc

- <http://apidock.com/>
- <http://ruby-doc.org/>
- <http://rubydoc.info/>



End of part 1.

Vprašanja?

# Sledi...

- DSL
- RSpec
- Sinatra
- Ruby on Rails

**DSL** = Domain-specific language

- *“In software development, a domain-specific language (DSL) is a programming language or specification language dedicated to a particular problem domain, a particular problem representation technique, and/or a particular solution technique.”*  
- Wikipedia

# Bolj poznani “DSL-ji” v Ruby svetu...

- **RAKE** ~ Ruby “Make”
- **RSpec** ~ Ruby Specification framework
- **Sinatra** ~ Web application framework
- ...



# RSpec = Behaviour-Driven Development tool for Ruby programmers

```
oseba.rb
1 class Oseba
2
3   attr_accessor :ime
4
5   def initialize ime, priimek
6     @ime, @priimek = ime, priimek
7   end
8
9   def priimek= value
10    @priimek = value
11  end
12
13  def priimek
14    @priimek
15  end
16
17  def to_s
18    "#{self.ime} #{self.priimek}"
19  end
20 end
```

Line: 15 Column: 6 Ruby on... Soft Tabs

```
oseba_spec.rb
2 describe Oseba do
3   before :each do
4     @oseba = Oseba.new "Oto", "Brglez"
5   end
6
7   it "should have :ime, :priimek" do
8     @oseba.should respond_to :ime
9     @oseba.should respond_to :priimek
10  end
11
12  it "shoud respond to ime" do
13    @oseba.ime = "Oto"
14    @oseba.ime.should == "Oto"
15    @oseba.priimek = "Brglez"
16    @oseba.priimek.should == "Brglez"
17  end
18
19  it "has method #to_s" do
20    @oseba.to_s.should match /x/
21  end
22 end
```

Line: 17 Column: 6 RSpec Soft Tabs

```
6. bash
otobrglez@~/ruby-talk: rspec oseba_spec.rb
..F

Failures:

  1) Oseba has method #to_s
     Failure/Error: @oseba.to_s.should match /x/
     expected "Oto Brglez" to match /x/
     # ./oseba_spec.rb:20:in `block (2 level
s) in <top (required)>'

Finished in 0.34508 seconds
3 examples, 1 failure

Failed examples:

rspec ./oseba_spec.rb:19 # Oseba has method
#to_s

otobrglez@~/ruby-talk: 
```

# Sinatra

```
moja_stran.rb
1 require "sinatra"
2
3 get '/' do
4   "Zdravo #wwwmb"
5 end
6
7 get '/pozdrav/:name' do
8   "Pozdrav <b>#{params[:name]}</b>"+
9   ", jaz sem Sinatra!"
10 end
11
12 post '/pozdrav-save' do
13   # ... shrani v DB ipd...
14 end
15
16
```

Line: 16 Column: 1 Ruby on... Soft Tabs

```
6. ruby
otobrglez@~/ruby-talk: ruby moja_stran.rb
[2011-10-25 17:17:41] INFO WEBrick 1.3.1
[2011-10-25 17:17:41] INFO ruby 1.9.2 (2011-02-18) [x86_64-darwin10.7.0]
== Sinatra/1.3.1 has taken the stage on 4567
for development with backup from WEBrick
[2011-10-25 17:17:41] INFO WEBrick::HTTPServer#start: pid=33314 port=4567
127.0.0.1 - - [25/Oct/2011 17:18:07] "GET /pozdrav/Oto HTTP/1.1" 200 36 0.0017
itatu-design - - [25/Oct/2011:17:18:07 CEST]
"GET /pozdrav/Oto HTTP/1.1" 200 36
- -> /pozdrav/Oto
```



```
http://localhost:4567/pozdrav/Oto
+ http://localhost:4567 Google
Pozdrav Oto, jaz sem Sinatra!
```

# Ruby on **Rails**

David Heinemeier Hansson @dhh

Julij 2004

Ruby on Rails z Mac OS X

Leopard



# Filozofija


- **CoC** = Convention over Configuration
- **DRY** = Don't Repeat Yourself

# Kaj ima?

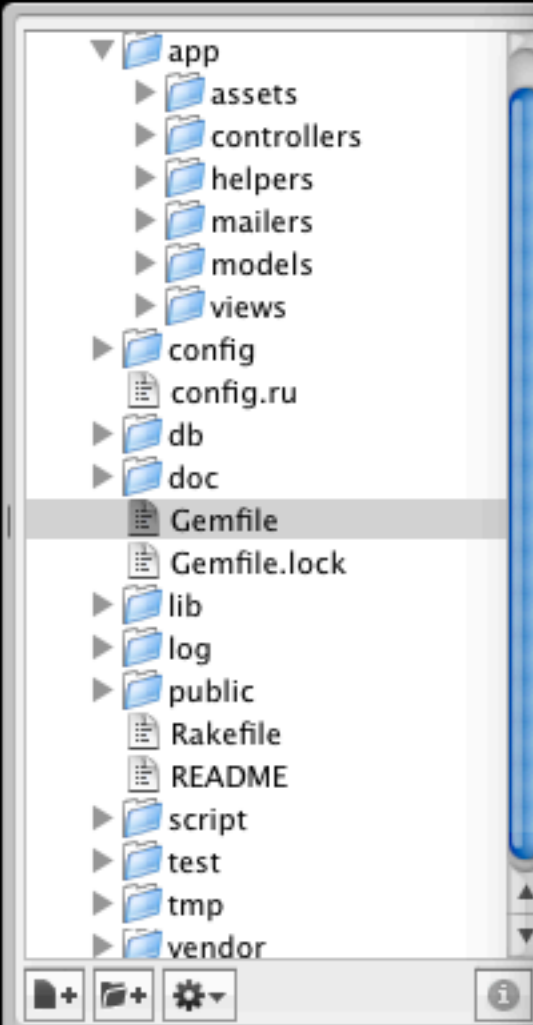

- **MVC** ~ Model-View-Controller Pattern
- Scaffolding
- WEBrick
- Rake
- Prototype in Script.aculo.us ~> **jQuery**
- **REST**ful Web Services
- **UJS** = Unobtrusive JavaScript
- **ActiveRecord**

# Simple projekt: **pozdravi-me**

```
3. bash
otobrglez@~/ruby-talk: rails new pozdravi-me
create
create  README
create  Rakefile
```



```
3. bash
otobrglez@~/ruby-talk: cd pozdravi-me/
otobrglez@~/ruby-talk/pozdravi-me: echo "gem 'haml'" >> Gemfile ;
otobrglez@~/ruby-talk/pozdravi-me: echo "gem 'sass'" >> Gemfile ;
otobrglez@~/ruby-talk/pozdravi-me: bundle install
```



- app
  - assets
  - controllers
  - helpers
  - mailers
  - models
  - views
- config
  - config.ru
- db
- doc
- Gemfile
- Gemfile.lock
- lib
- log
- public
- Rakefile
- README
- script
- test
- tmp
- vendor

```
Gemfile
1 source 'http://rubygems.org'
2
3 gem 'rails', '3.1.1'
4 gem 'sqlite3'
5 gem 'sass'
6 gem 'haml'
7
8 group :assets do
9   gem 'sass-rails', '~> 3.1.4'
10  gem 'coffee-rails', '~> 3.1.1'
11  gem 'uglifier', '>= 1.0.3'
12 end
13
14 gem 'jquery-rails'
15 group :production do
16   gem 'pg'
17   gem 'therubyracer-heroku'
18 end
19
20 group :test do
21   gem 'turn', :require => false
```

Line: 8 Column: 17 Plain Text Tab Size: 2



# Scaffold

```
3. bash
otobrglez@~/ruby-talk/pozdravi-me: rails generate scaffold message who:string
body:text -f
active_record
```

messages\_controller.rb ...

application.rb

```
class MessagesController < ApplicationController
  # GET /messages
  # GET /messages.json
  def index
    @messages = Message.all

    respond_to do |format|
      format.html # index.html.erb
      format.json { render :json => @messages }
    end
  end

  # GET /messages/1
  # GET /messages/1.json
  def show
    @message = Message.find(params[:id])
  end
end
```

20111025160732\_create\_messages.rb

Gemfile application.rb

```
class CreateMessages < ActiveRecord::Migration
  def change
    create_table :messages do |t|
      t.string :who
      t.text :body

      t.timestamps
    end
  end
end
```

index.html.haml — pozdravi-me

Gemfile application.rb

```
1 %h1 Listing messages
2
3 %table
4   %tr
5     %th Who
6     %th Body
7     %th
8     %th
9     %th
10
11   - @messages.each do |message|
12     %tr
13       %td= message.who
14       %td= message.body
15       %td= link_to 'Show', message_path(message)
16   end
```

routes.rb — pozdravi-me

Gemfile application.rb

```
PozdraviMe::Application.routes.draw do
  resources :messages

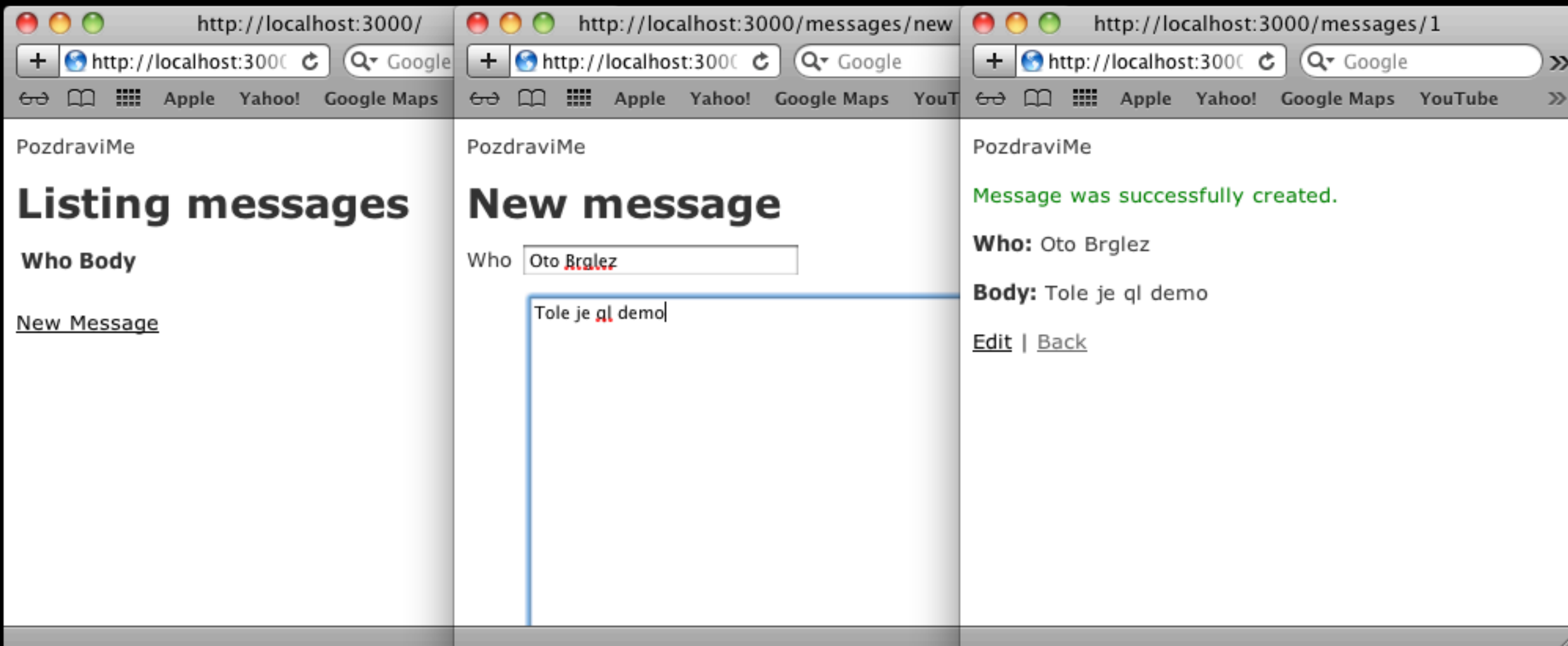
  root :to => "messages#index"

  # The priority is based upon the order of the routes
  # first created -> highest priority

  # Sample of regular route:
  # match 'products/:id' => proc { |req| get('products', req.params[:id]) }, :via => :get

  # Sample of named route:
  # match 'products/:id/purchase' => proc { |req| get('products/:id/purchase', req.params[:id]) }, :via => :get
  # This route can be invoked in your templates as:
  # <%= link_to 'Purchase', product_path(id), :method => :get %>
```

# What?







3. bash

```
otobrglez@~/ruby-talk/pozdravi-me: git init ; git add . ; git commit -m "New app";  
Initialized empty Git repository in /Users/otobrglez/ruby-talk/pozdravi-me/.git/  
[master (root-commit) 17927be] New app  
53 files changed, 1249 insertions(+), 0 deletions(-)
```

3. bash

```
otobrglez@~/ruby-talk/pozdravi-me: heroku create pozdravi-me  
Creating pozdravi-me... done, stack is bamboo-mri-1.9.2  
http://pozdravi-me.herokuapp.com/ | git@heroku.com:pozdravi-me.git  
Git remote heroku added  
otobrglez@~/ruby-talk/pozdravi-me: █
```

3. bash

```
Installing uglifier (1.0.4)  
Your bundle is complete! It was installed into ../bundle/gems/  
-----> Compiled slug size is 13.3MB  
-----> Launching... done, v4  
http://pozdravi-me.herokuapp.com deployed to Heroku  
  
To git@heroku.com:pozdravi-me.git  
* [new branch]      master -> master  
Migrating to CreateMessages (20111025160732)  
== CreateMessages: migrating =====  
-- create_table(:messages)  
   -> 0.0087s  
== CreateMessages: migrated (0.0088s) =====  
  
otobrglez@~/ruby-talk/pozdravi-me: █
```

# Hvala!

<http://pozdravi-me.herokuapp.com/>

# Novo v Rails 3.1

- Assets Pipeline
- HTTP Streaming
- jQuery Default